

INSTRUCTIONS 使用說明書

VideoMovie

VHS-C
PAL

CAMERA-RECORDER/PLAYER

HQ
High Quality

GR-45

Specifically for the GR-45E/AA-V5EG

專用於 GR-45E/AA-V5EG



CCD

Charge Coupled Device

AF
AUTO FOCUS

JVC

Thank you for purchasing the JVC GR-45E VideoMovie. Before use, read this instruction booklet carefully for obtaining the best results from your new unit.

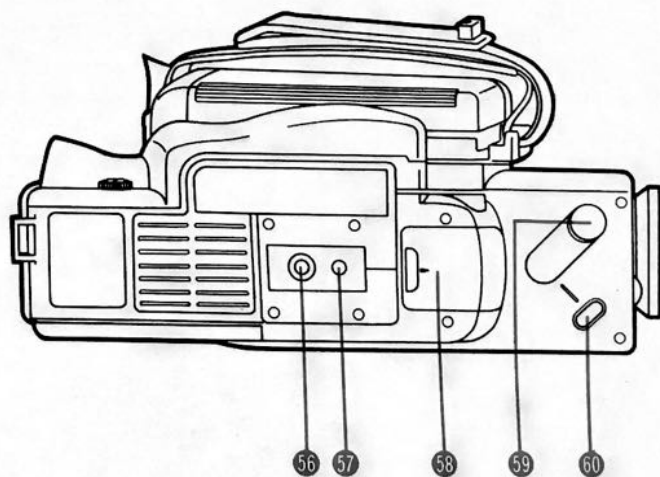
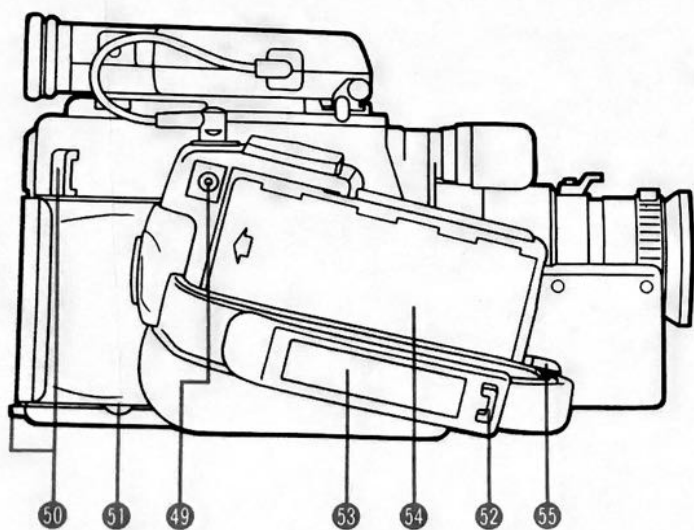
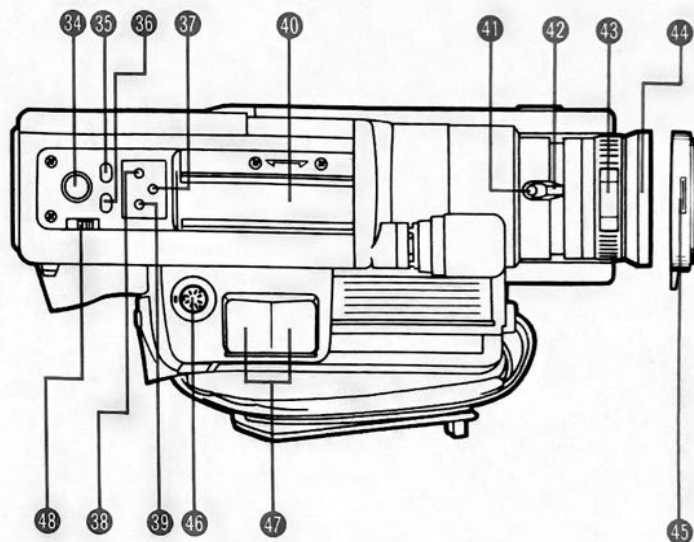
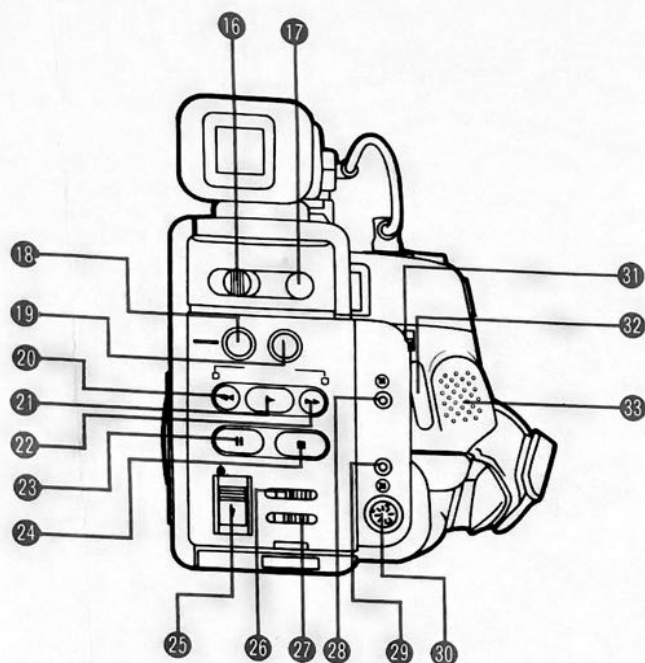
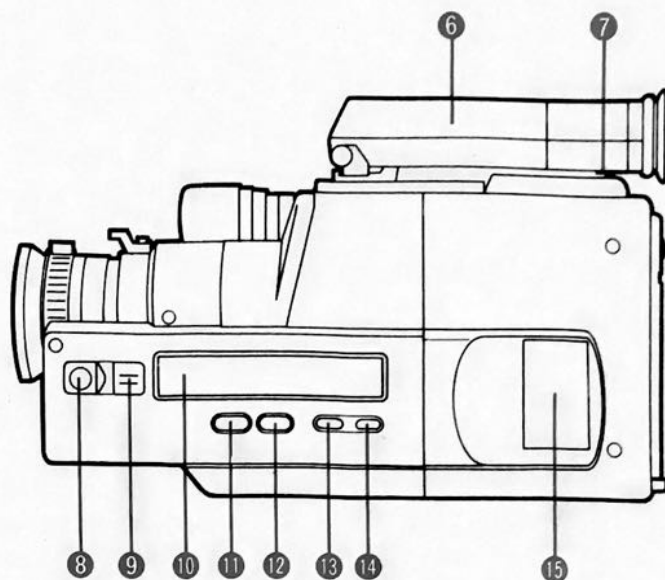
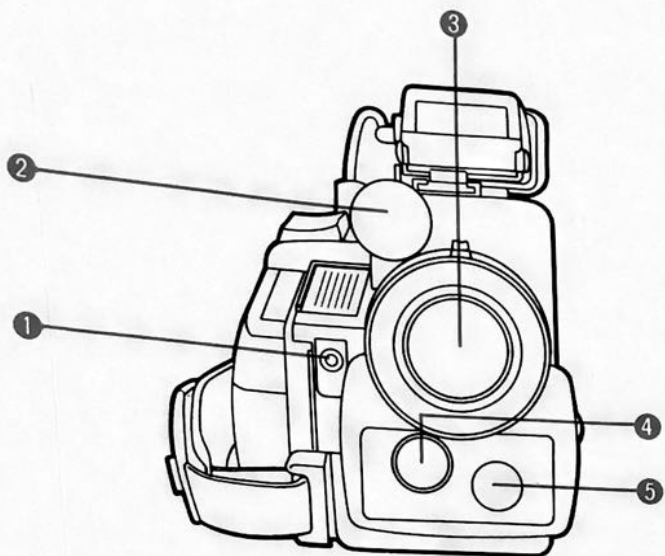
Diagrams are on the reverse side of this page. Fold it out and keep it opened so that you can refer to the diagrams when you are reading this booklet.

ENGLISH INSTRUCTIONS Page 1 – 30

謝謝您購買JVC GR-45E攝影機。使用前，請詳讀本說明書，以發揮本機最佳的效果。


示意圖附於本頁背面。閱讀本說明書時，請翻開示意圖，以便參閱。

中文使用說明書 31～60頁



SAFETY PRECAUTIONS

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

This equipment should be used with DC 9.6 V  only.

CAUTION:

To prevent electric shocks and fire hazards, do NOT use any other power source.

The AA-V5EG AC Power Adapter/Battery Charger should be used with 110 – 240 V~, 50/60 Hz only.

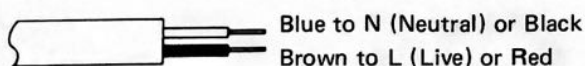
Caution:

To prevent electric shocks and fire hazards, do NOT use any other power source.

IMPORTANT (In the United Kingdom)
Mains Supply (240 V~, 50 Hz only)

IMPORTANT

Do not make any connection to the Larger Terminal coded E or Green. The wires in the mains lead are coloured in accordance with following code:



If these colours do not correspond with the terminal identifications of your plug, connect as follows:

Blue wire to terminal coded N (Neutral) or coloured Black.

Brown wire to terminal coded L (Live) or coloured Red.

If in doubt – consult a competent electrician.

Note

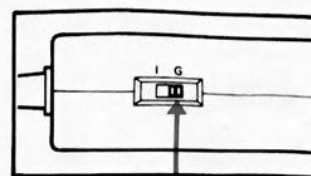
We recommend that you should disconnect the AC cord from the outlet.

Warning on lithium battery

The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate.

Replace battery with Matsushita Electric, CR 2025; use of another battery may present a risk of fire or explosion.

- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of in fire.



ATTENTION:

The system select switch on the side of the provided RF unit RF-V3E has been set to G (Continental PAL, 5.5 MHz).

CAUTION:

To prevent shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified personnel.

NOTES:

- The rating plate (serial number plate) and safety caution of the main unit are on its bottom.
- The rating plate (serial number plate) of the viewfinder is on its bottom.
- The rating plate (serial number plate) of the AC power adapter/battery charger is on its bottom.

The provided viewfinder is the VF-V45E. Do not use any other viewfinder with the GR-45E.

This equipment has been produced to comply with Directive number 82/499/EEC.



- VideoMovie is designed exclusively for the **VHS** video cassette. Only cassettes marked **VHS** can be used with this unit.
- HQ VHS is compatible with existing VHS equipment.

PRECAUTIONS

For safety, strictly observe the following instructions.

- Do not open the cabinet.
- Prevent inflammables, water and metallic objects from entering the unit.
- Do not use the unit when there is lightning in the vicinity. Disconnect the power cable of connected equipment.

Avoid using the unit under the following conditions:

- Places subject to excessive humidity or dust.
- Near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
- Places subject to soot or steam such as near a cooking stove.
- Places subject to excessive shock or vibration.
- Near a television set (rolling pictures or howling might result).
- Extremely hot places.

Do not expose the unit to high temperatures over 50°C for long periods.

If the unit should be subjected to direct sunlight, or left in a closed car in summer, or placed near a heater, the CCD and the auto-focus sensor may deteriorate and the cabinet may become deformed. Furthermore, this also may cause the transistors and other electronic and mechanical parts to malfunction. Remember the following:

- Do not leave the unit in places of over 50°C.
- Do not use the unit in places of over 40°C.
- Do not use the unit in places of below 0°C.
- Protect the unit from excessively dry or excessively humid conditions (below 35 % or above 80 % humidity)
- For long storage, select a place between -10°C and 30°C.

Take special care for protection of the unit.

- Do not allow the unit to become wet.
- Do not leave the unit in closed cars on hot summer days.
- Take special care not to drop the unit or strike it against hard objects. Protect from shocks during transportation.

Make it a rule to observe the following instructions.

- Do not remove the battery pack or disconnect other power supply units during recording or playback before pressing the POWER switch to OFF. If not observed, this will cause tape damage.
 - When the unit is not in use, remove the battery pack.
 - Keep the lens and viewfinder eyepiece always clean.
 - When the lens is dirty or dusty, blow it off first and then gently wipe with a soft brush or lens cleaning paper.
 - The lens is likely to become moldy if left dirty.
- Be careful not to damage the CCD and auto-focus sensor.

- Do not keep the lens directed at extremely bright objects such as the sun or other light sources for long periods. Although the CCD is less susceptible to such burn than a tube would be, caution should be exercised when using this unit. Most importantly, the lens should be capped except while actually shooting.

- Do not direct the eyepiece of the viewfinder at the sun.

Auto-focus requires a bit of consideration.

- Do not touch the focus ring while the auto-focus mechanism is in operation as this could damage the auto-focus mechanism.
- When a filter or a special-effect lens is to be attached to the end of the lens, be sure to turn power off or switch from the Auto-focus mode to the Manual mode. NEVER attempt to attach a filter or lens while the auto-focus mechanism is operating as this will result in malfunctioning. (If a teleconversion or wide-angle conversion lens is attached, the auto-focus mode cannot be used.)

Handle the unit carefully.

- Protect the microphone from excessive shocks.
- Do not carry the unit by holding it only by the viewfinder.

• Selectable automatic date recording function.

• Recordable still-frame display.

• Elapsed recording time counter.

• Second recording start/stop button provided on top of GR-45E.

• Data Frame Editing for scene take, smooth scene transitions.

• Dubbing mode switch provided for best results when dubbing.

• Selectable quick review function.

• One-button recording standby mechanism.

• Master Edit Control system allows control of both GR-45E and connected designated VCR using GR-45E's controls, and pre-roll editing for edit take of transition-point gaps and noise.

• Shuttle Search in both directions.

• Unique grip battery handles as palm grip, saving weight and space.

• Ergonomic design with palm grip and finger rest for trigger control.

• Trigger alarm informing the operator with electronic sound when the start/stop trigger is depressed.

• Three-way power supply flexibility: battery pack, AC power adapter and car battery.

VIDEO CASSETTES

Moisture condensation disables use of the unit.

- You have observed that pouring a cold liquid into a glass will cause drops of water to form on the glass's outer surface. This same phenomenon occurs on the head drum of a video recorder when the recorder is moved from a cool place to a warm place, after heating a cold room, under extremely humid conditions or in a place directly subjected to the cool air from an air conditioner.
- Moisture on the head drum can cause severe damage to the video tape, and can lead to internal damage to the recorder itself.
- If moisture condensation occurs on the head drum, a condensation warning appears in the counter display and the unit enters the Stop mode, unable to function. In such a case, wait for a few hours until the indicator disappears.

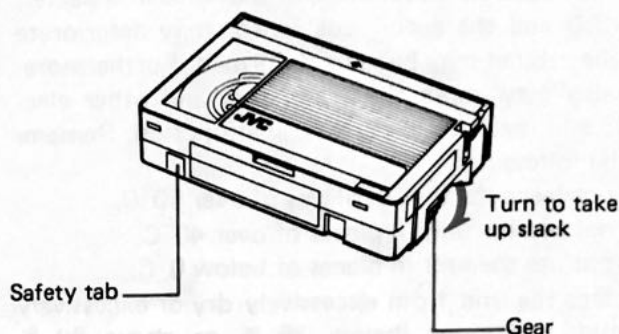
Maintenance

- When the cabinet is dusty, clean by gently wiping with a soft cloth.
- Avoid the use of strong cleaning agents such as benzine or alcohol as they may damage the cabinet.
- Cleaning should be done only after the battery pack has been removed or other power units have been disconnected.

Serious malfunctioning

If malfunctioning occurs, stop using the unit immediately and consult your local JVC dealer.

- The GR-45E employs only compact video cassettes carrying the **VHS** mark.
- Recording onto prerecorded tapes automatically erases the previously recorded video and audio signals.
- An inverted cassette cannot be inserted.
- Do not load and unload the cassette repeatedly without allowing the tape to run at all. This will slacken the tape and thereby damage it.
- Make certain before loading the cassette that the tape is not slackened. If there is any slack, turn the gear on the cassette in the direction of the arrow to take up slack.
- The cassette is equipped with a safety tab to prevent accidental erasure. When the tab is removed, recording is impossible. If you wish to record on a cassette whose tab has been removed, use adhesive tape to reseal the slot.
- To avoid excessive exposure to dust and fingerprints, do not open the front tape cover.



Storage of cassettes

- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid storing the cassettes in humid or dusty places.
- Do not drop the cassettes. Do not expose them to violent vibrations or shocks.
- Do not expose the cassettes to strong magnetic fields (near a motor, transformer or magnet).
- Place the cassettes in cassette cases and position them vertically.

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FEATURES

- Allows direct playback with no additional components necessary.
- Ultra-compact and ultra-lightweight: a mere 1.2 kg.
- Multi-speed electronic shutter for sharp, clear playback of fast-action shots: 1/50, 1/250, 1/500 and 1/1000.
- Newly developed high-resolution 1/2" field-storage type CCD (Charge Coupled Device) pickup delivering 400-line resolution pictures.
- One-button full-auto operation of focus, exposure, and white balance.
- Powerful, two-speed 6:1 power zoom with macro function.
- HQ (High Quality) System for superlative picture quality.
- Maximum of 60 minutes recording time on a single tape in LP mode
- Double-Azimuth 8-head system for quality recording and playback in both the SP and LP modes.
- High-sensitivity/low-lag design: allows shooting in light as low as 10 lux.
- Image Sensing auto-focus.
- Automatic Colour Tracking white balance with three preset positions.
- Backlight compensation button.
- Audio/video fader linked to start/stop trigger.
- Large, easy-to-read LCD display.
- Ultra-compact adjustable electronic viewfinder (monochrome CRT, 0.6-inch screen) with diopter control, also for instant on-the-spot playback.
- Selectable automatic date recording function.
- Recordable date/time display.
- Elapsed recording time counter.
- Second recording start/stop button provided on top of GR-45E.
- Zero Frame Editing for noise-free, smooth scene transitions.
- Dubbing mode switch provided for best results when dubbing.
- Selectable quick review function.
- One-button recording standby mechanism.
- Master Edit Control system: allows control of both GR-45E and connected designated VCR using GR-45E's controls, and preroll editing for edits free of transition-point gaps and noise.
- Shuttle Search in both directions.
- Unique grip battery doubles as palm grip, saving weight and space.
- Ergonomic design with palm grip and finger rest for trigger control.
- Trigger alarm informing the operator with electronic sound when the start/stop trigger is operated.
- Three-way power supply flexibility: battery pack, AC power adapter, and car battery.

POWER SUPPLY SYSTEM

The convenient 3-way power supply system gives you a choice of the most appropriate power supply unit, depending on the application.

CAUTION

- No function is available without power supply.
- Do not use any power supply other than specified.
- Never attempt to use these power supply units with any equipment other than the VideoMovie.

Where AC power is not available

Use the battery packs:

- BN-V5GU (Regular)
- BN-V6GU (High-capacity)
- BN-V7GU (Super high-capacity)

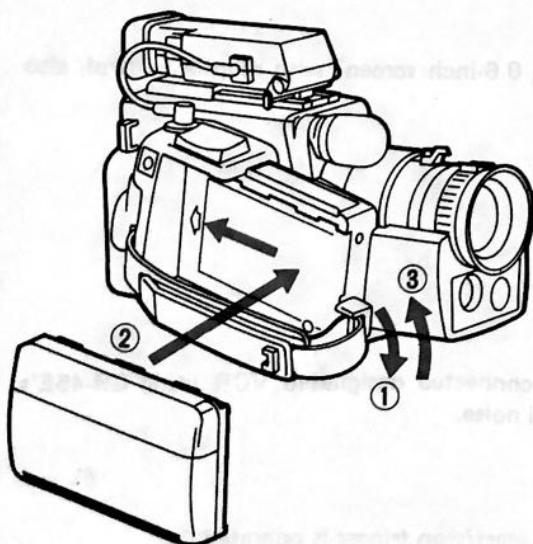
Note:

The battery pack has been kept in the uncharged state for shipment. Therefore, before use, be sure to charge it. See page 23.

Attaching the Battery Pack

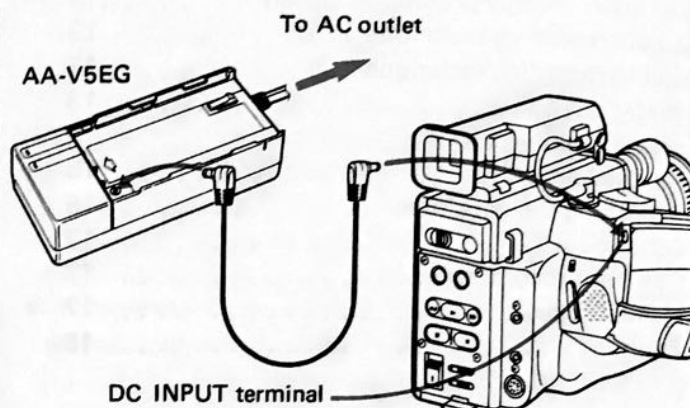
- ① Pull down the battery pack release lever.
- ② Align the battery pack over the outline in the battery pack mount, and slide the battery pack into place in the direction of the arrow.
- ③ Push up on the battery pack release lever, until it locks into place.

To remove the battery pack, pull down the battery pack release lever and slide out the battery.



With AC power

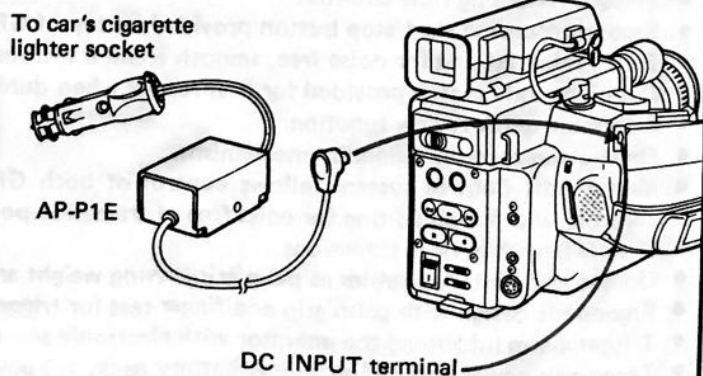
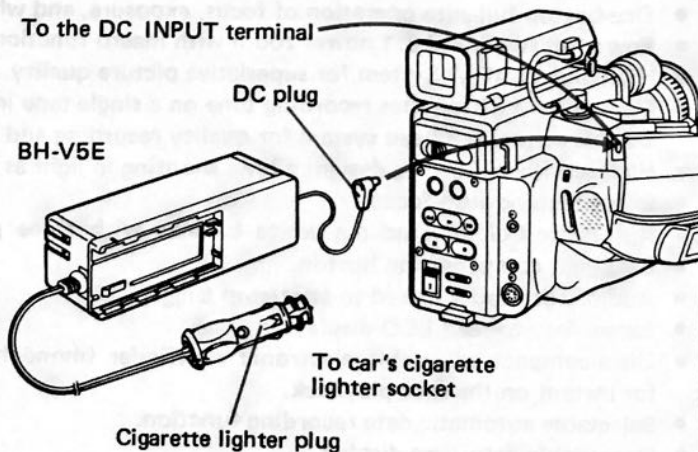
Use the provided AA-V5EG AC power adapter/battery charger.



In a car

Use the optional AP-P1E car battery cord or BH-V5E car battery charger.

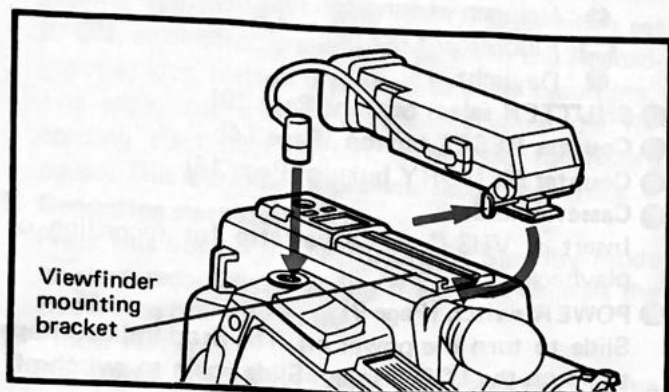
- Leave the car's engine idling when using the car battery. (For use with 12 V negative-grounded cars only.)



BASIC PREPARATIONS

Switch off power before mounting or removing viewfinder.

Mounting the viewfinder

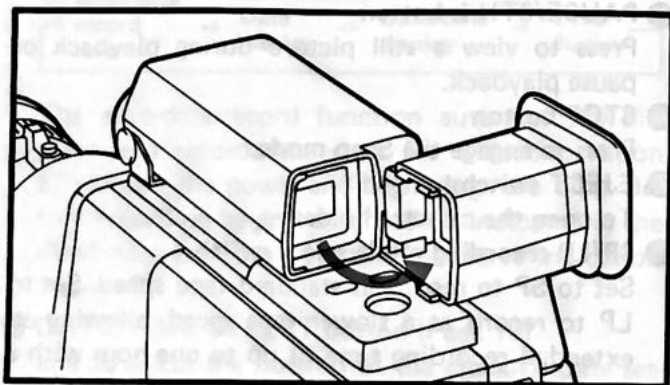


- 1 Align the viewfinder's coupling fixture with the mounting bracket on the body and slide the fixture into the bracket while pressing the knob.
- 2 Connect the viewfinder cable to the viewfinder cable connector (EVF).

To remove the viewfinder:

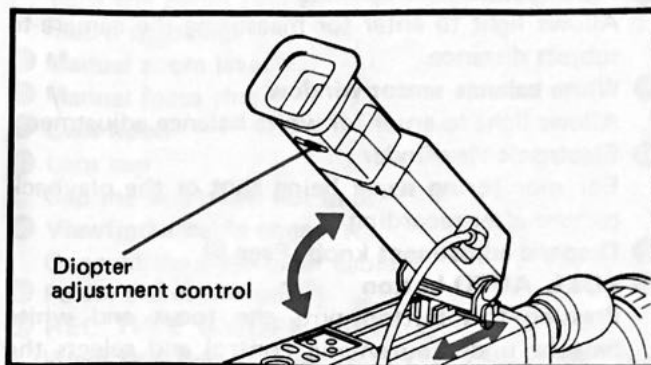
Pull out the viewfinder cable and slide the viewfinder out of the bracket while pressing the knob.

Opening the eyepiece



The viewfinder eyepiece can be opened for cleaning or better viewability in playback.

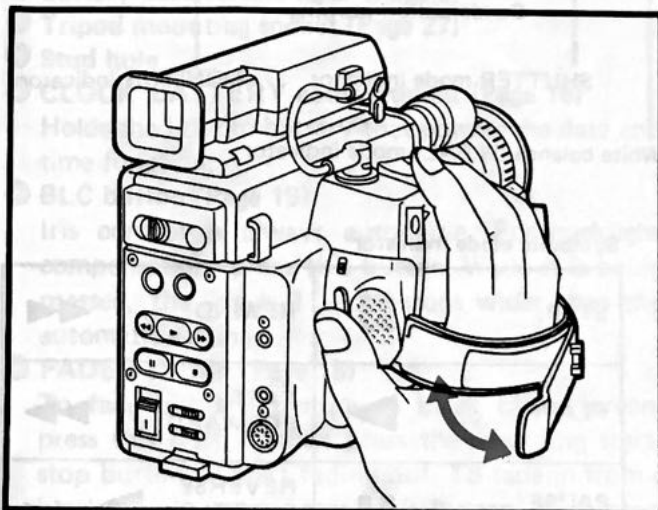
Viewfinder adjustment



The viewfinder lens can be adjusted to suit the operator's eyesight by sliding the diopter adjustment control. Its normal position is to the far left, toward the cassette compartment.

The viewfinder can be positioned for best viewability. It can slide forward or back and can be tilted up 90°.

Adjusting the Grip Strap

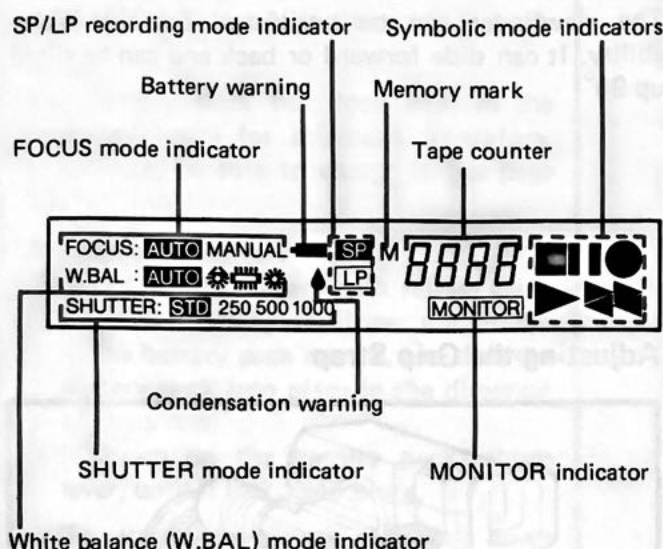


- 1 Separate the Velcro strip to expand the loop.
- 2 Pass your right hand through the loop and grasp the lens grip. Adjust the length of the strap to suit your hand size and refasten the Velcro strip.

CONTROLS AND CONNECTORS

Refer to the diagrams on the front foldout page.

- 1 External microphone jack (MIC) (Page 27)
- 2 Exclusive microphone
- 3 6:1 zoom lens
- 4 Auto-focus sensor window
Allows light to enter for measuring the camera-to-subject distance.
- 5 White balance sensor window
Allows light to enter for white balance adjustment.
- 6 Electronic viewfinder
For monitoring scene being shot or the playback picture after recording.
- 7 Dioptic adjustment knob (Page 6)
- 8 FULL AUTO button
Pressing this button puts the focus and white balance under automatic control and selects the standard shutter speed.
- 9 FOCUS select button
Switch to AUTO for automatic focus, and switch to MANUAL to focus manually.
- 10 LCD display



Symbolic mode indicator

STOP:	■	REWIND:	◀◀
PLAY:	▶	FAST FORWARD	▶▶
PAUSE: (STILL)		REVERSE SHUTTLE SEARCH:	▶◀◀
RECORD:	●	FORWARD SHUTTLE SEARCH:	▶▶▶
RECORD PAUSE:	●	MASTER EDIT CONTROL:	▶◀◀ Blinking
QUICK REVIEW	●◀	TAPE END WARNING	●◀◀ Blinking

- 11 W.BALANCE select button (Page 9)
The white balance is manually selectable using this button.
☀: Halogen or tungsten lighting.
☀: Fluorescent lighting.
☀: Daylight.
- 12 SHUTTER select button (Page 19)
- 13 Counter RESET button (Page 14)
- 14 Counter MEMORY button (Page 14)
- 15 Cassette holder
Insert a VHS-C video cassette for recording or playback.
- 16 POWER switch (Page 9)
Slide to turn the power on. The Stop indicator appears on the LCD display. Slide again to switch off power.
- 17 REC standby button
Press to engage the Recording standby mode. To start recording, press the recording start/stop button 32.
- 18 MONITOR button (Page 11)
- 19 QUICK REVIEW/EDIT button (Page 10)
- 20 REW/SHUTTLE SEARCH button
Pressing this button in the Stop mode rewinds the tape; pressing it in the Play mode allows fast playback in reverse.
- 21 PLAY button
Press to start playback.
- 22 FF/SHUTTLE SEARCH button
Pressing this button in the Stop mode fast-forwards the tape; pressing it in the Play mode allows fast playback.
- 23 PAUSE/STILL button
Press to view a still picture during playback or pause playback.
- 24 STOP button
Press to engage the Stop mode.
- 25 EJECT switch
To open the cassette holder.
- 26 SP/LP recording mode select switch
Set to SP to record at standard tape speed. Set to LP to record at a slower tape speed, allowing an extended recording time of up to one hour with a single cassette.
- 27 DUBBING ON/OFF switch
Normally, set to OFF. For best picture quality when dubbing, set it to the ON position.
- 28 REMOTE control jack
For connection of the optional RM-P1U pause remote control unit.
- 29 Earphone jack (PHONE)
- 30 AV OUT connector
Both audio and video signals may be delivered from this connector.

31 ALARM ON/OFF switch

Switch to ON to engage the trigger alarm system. Switch to OFF when you do not wish to use this system. When the ALARM ON/OFF switch is set to ON, an electronic alarm beeps when the Recording start/stop button is pressed to begin recording. The electronic alarm beeps twice when the Recording start/stop button is pressed for record pause. This alarm helps prevent recording errors.

32 Recording start/stop button

Press this button in the Recording Standby mode to start recording. Pressing it again re-engages the Recording Standby mode.

33 Finger rest

Place your thumb on this grooved area next to the start/stop switch between switch operations.

34 Second recording start/stop (SUB TRIGGER) button

35 DATE/TIME REC ON/OFF button

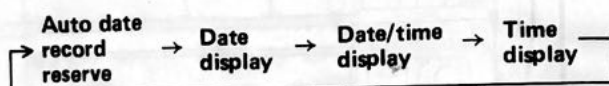
Press this button when you do not wish to record the date/time. This will remove date/time indications from the viewfinder. Press again to record date/time. Date/time will reappear in the viewfinder.

36 REC TIME RESET button

Press this button to reset the elapsed recording time to zero.

37 DISPLAY SELECT button

Press this button to select the date/time display and recording mode. It cycles through the modes in the following order:



The auto-date-record function automatically displays and records the date for 5 seconds upon turning on the power and beginning recording. Before recording begins, this mode is indicated in the viewfinder by auto date record reserve indication "—.—.—".

38 DATE/TIME SELECT button (Page 16)

Use to select the portion of the clock or date settings to be changed. Cycles through the year, month, day, hour, and minute settings. To end adjustment, press once after selecting the minute portion.

39 DATE/TIME SET button (Page 16)

Use to set the built-in clock and date function.

40 Viewfinder mount (Page 6)

Attach the provided viewfinder.

41 Macro button

Turn the zoom ring while pressing this button for macro shooting.

42 Manual zoom lever

43 Manual focus ring

44 Lens hood

45 Lens cap

Cap the lens when not in use.

46 Viewfinder cable connector

Connect the viewfinder cable.

47 Power zoom buttons

48 REC TIME ON/OFF switch

When this switch is set to ON, the viewfinder displays the elapsed recording time. Switch to OFF to cancel the display. Unloading the cassette resets the display to "00.00". Note that this convenience functions only when camera shooting is performed.

49 DC IN terminal

For connection of the provided AC power adapter/battery charger, optional car battery charger or car battery cord for DC power supply. (Page 5)

50 Slots for shoulder strap

51 TRACKING control (Page 13)

Minimizes noise bars, if observed, during playback.

52 Lens cap hook

This keeps the lens cap from swinging during shooting.

53 Grip strap (Page 6)

54 Grip-type battery mount (Page 23)

55 Battery pack release lever (Page 5)

56 Tripod mounting socket (Page 27)

57 Stud hole

58 CLOCK BATTERY compartment (Page 16)

Holds the lithium battery that powers the date and time function.

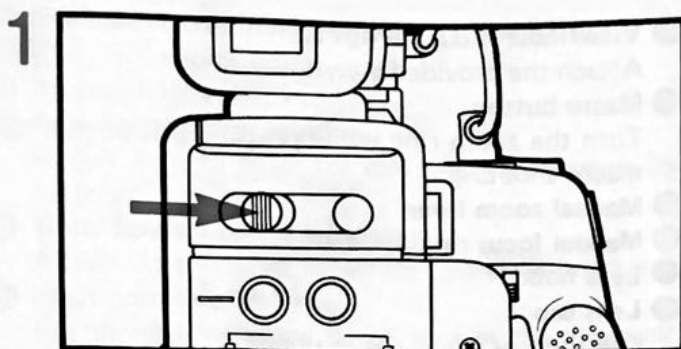
59 BLC button (Page 19)

Iris control is always automatic. For backlight compensation, press this button. While it is being pressed, the iris is 1 — 2 f-stops wider than the automatic setting.

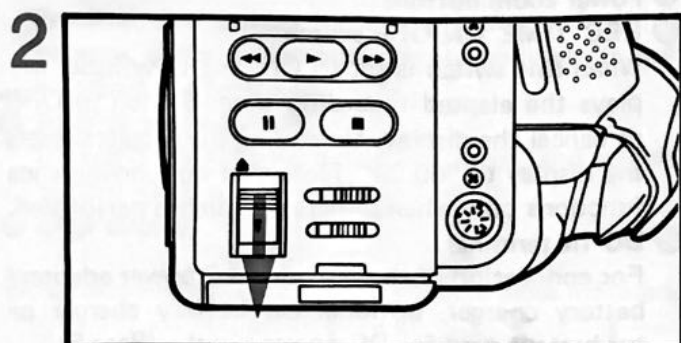
60 FADER button (Page 15)

To fade out the picture to black blank screen, press this button, then press the recording start/stop button to start fading out. To fade in from a black blank screen, press this button, then press the recording start/stop button to start fading in.

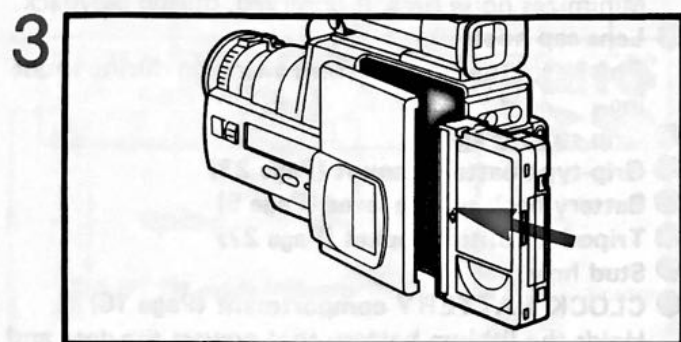
RECORDING OPERATION



Slide the POWER switch to turn power on.

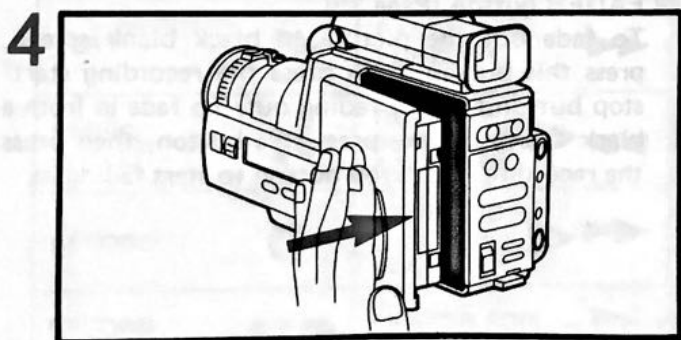


Open the cassette holder by pressing the EJECT switch.

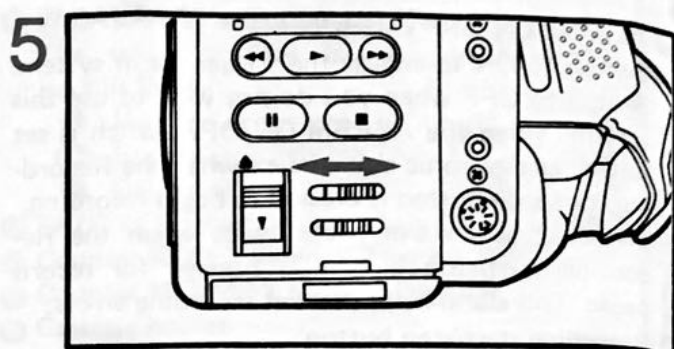


Insert the cassette with its printed arrow facing outward.

First remove tape slack, then insert the cassette correctly. See page 3.



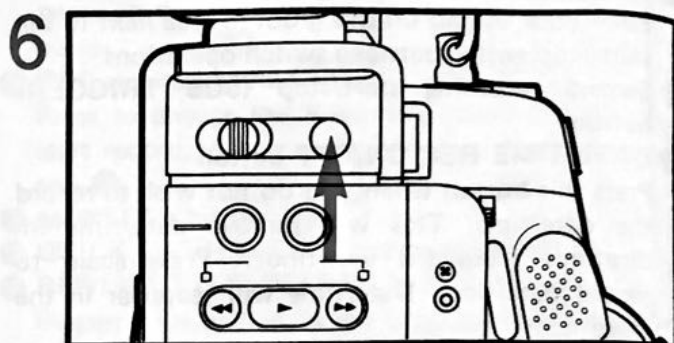
Close the cassette holder by pushing its center area.



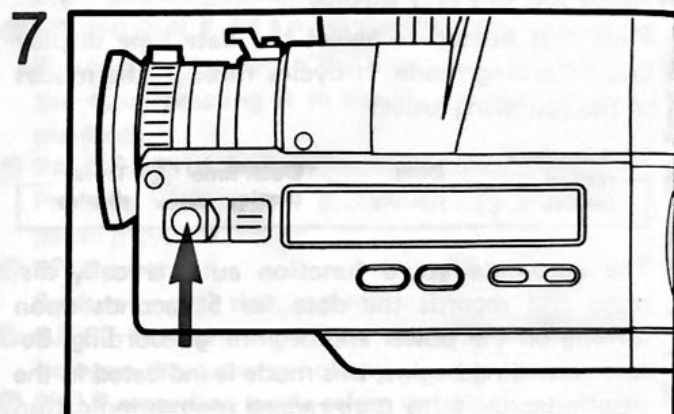
Set the tape speed to SP or LP.

SP: 30 minutes

LP: 60 minutes



Press the REC Standby button. The unit enters the Recording Standby mode.



For full-auto operation, press the FULL AUTO button.

For manual override, use the W. BALANCE and FOCUS buttons.

- Press the W. BALANCE button so that the required symbol appears on the viewfinder and on the LCD display.

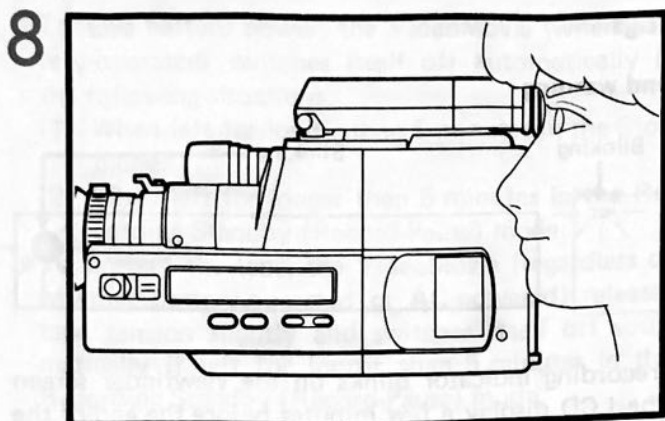
- ☀ : when the subject is illuminated by a halogen or tungsten lamp.

- 💡 : when the subject is illuminated by a fluorescent lamp.

- ☀ : when you shoot in the daytime outdoors.

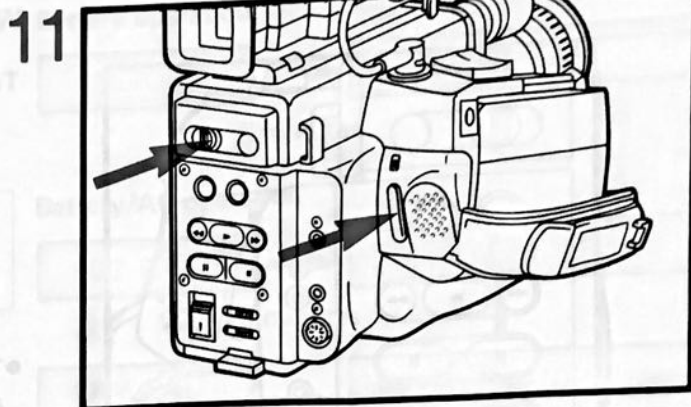
- When shooting under fluorescent light, always use the fluorescent light setting in the manual white balance mode for best results.

- For manual focus, press the FOCUS button so that MANUAL is shown on the LCD display. A focus-aid indicator will appear in the viewfinder.



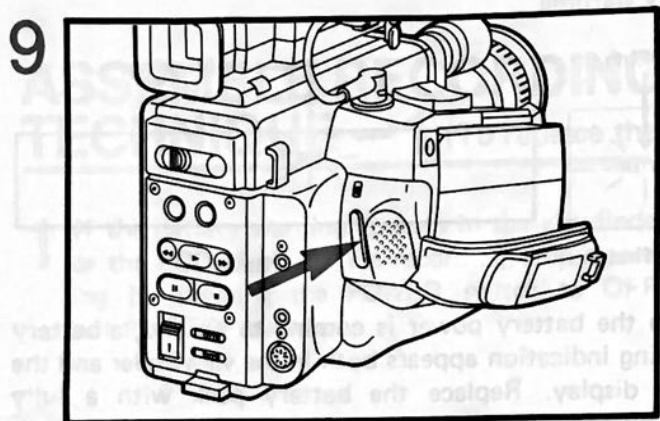
Determine the focus and composition by referring to the viewfinder image. For zooming, see page 18.

For date/time recording, see page 16.



To restart recording, press the start/stop button.

- For a long pause, press the POWER switch to OFF to save battery power.
- If the Recording Standby mode continues for longer than about 5 minutes, the unit switches itself off automatically. To restart recording, turn the power on and press the start/stop button. This makes clean assembled recordings possible even after a long pause.



Press the start/stop button.

- This causes REC or LP REC to appear on the viewfinder screen, showing that recording is actually taking place.
- Be careful not to touch any buttons inadvertently during shooting.

Assemble recordings

- Repeating steps 9 and 11 produces assemble recordings.
- If recording is restarted from the Stop mode, a few frames of the previously recorded picture is replaced with a new recording. To avoid this, follow the technique described in "Assemble Recording Technique-2" on page 12.

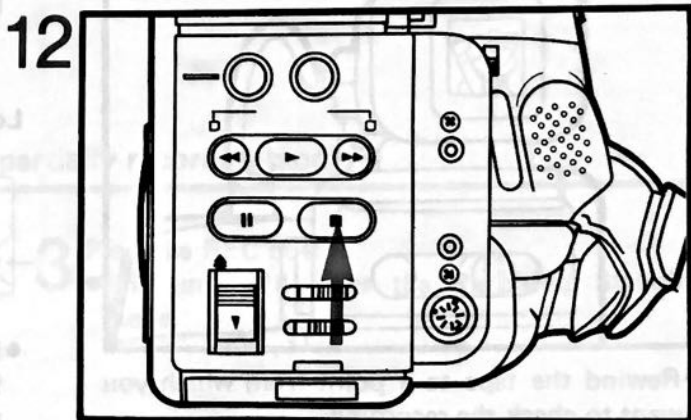
10 To stop recording temporarily, press the start/stop button once again.

Quick Review function

- If you want to review the end of the last recording for confirmation, press the QUICK REVIEW/EDIT button from the Recording Standby mode; the tape will be rewound for about 2 seconds for program time and played back automatically for this section, after which it will stop in the Recording Standby mode for the next shot.

Notes:

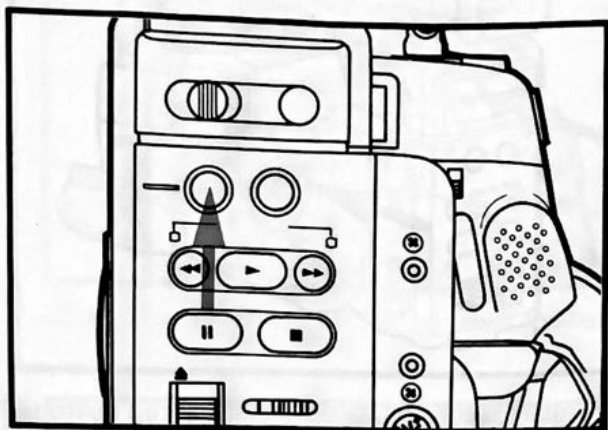
- The TRACKING control should be at its center position.
- Distortion might occur when playback starts. This is normal.



To end recording, press the STOP button.

- After making sure that the tape has stopped, press the POWER switch to OFF.

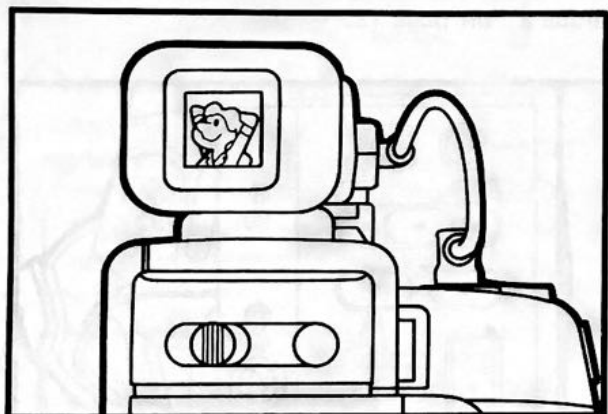
Rehearsal



If you wish to rehearse shooting angles, compose scenes, etc., without actually recording on the tape, press the **MONITOR** button, instead of **REC**. The aimed-at scene will appear on the viewfinder screen. For full-auto rehearsal, also press the **FULL AUTO** button. To engage the Recording Standby mode from rehearsal, press the **REC** button. To disengage the Rehearsal mode, press the **STOP** button.

- Rehearsal is possible whether a cassette is loaded or not.
- With a cassette loaded, rehearsal is not possible during rewind or fast forward.
- The power save circuit does not function during rehearsal. (For power save function, see page 12.)

Viewfinder Monitoring



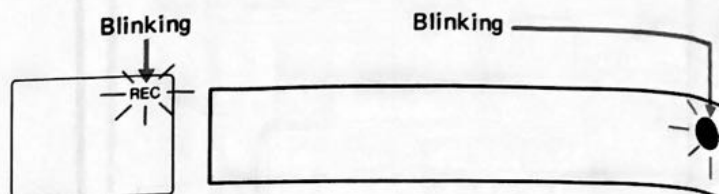
- Rewind the tape to a point from which you want to check the recording.
- Press the **PLAY** button, and you can view the playback picture on the viewfinder screen.

Notes:

- Pressing the **PAUSE/STILL** button during playback stops the picture on the viewfinder screen.
- Shuttle search is also possible in both directions.

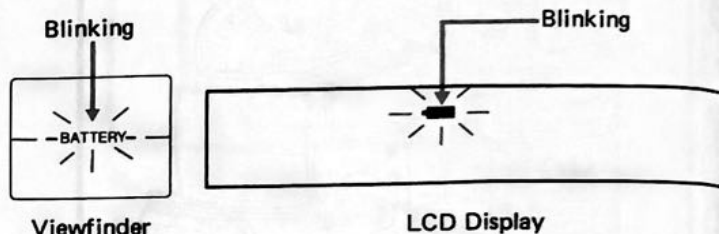
Warnings

Tape-end warning



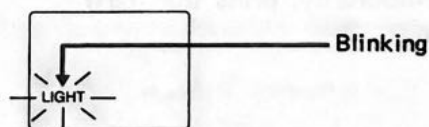
- The recording indicator blinks on the viewfinder screen and the LCD display a few minutes before the end of the tape.
- When the end of the tape is reached during recording, the Stop mode engages automatically.

Battery warning



- When the battery power is coming to an end, a battery warning indication appears both in the viewfinder and the LCD display. Replace the battery pack with a fully charged one.
- After these indications appear, the power turns off automatically. In this state, however pressing the **POWER** switch while holding **EJECT** switch pressed turns the power on and ejects the cassette.

Low-light warning

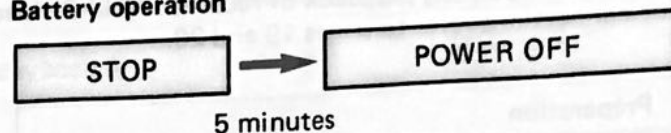


- If the blinking "LIGHT" indicator appears on the viewfinder screen, the amount of light is insufficient. Increase the lighting.

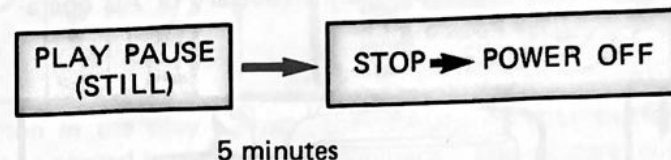
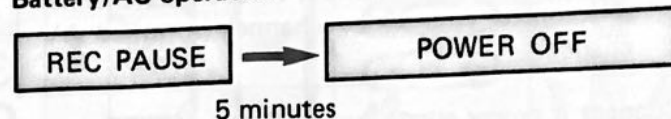
POWER SAVE AND TAPE PROTECTION CIRCUIT

- To save battery power, the VideoMovie (when battery-operated) switches itself off automatically in the following situations:
 - (1) When left for longer than 5 minutes in the Stop mode.
 - (2) When left for longer than 5 minutes in the Recording Standby (Record-Pause) mode.
- To protect the tape, the VideoMovie (regardless of whether battery-operated or AC-powered) releases tape tension slightly and switches itself off automatically if left for longer than 5 minutes in the Recording Standby (Record-Pause) mode.
- For the same reason, the VideoMovie enters the Stop mode and switches itself off automatically if left for longer than 5 minutes in the Still (Play-Pause) mode.

Battery operation



Battery/AC operation



ASSEMBLE RECORDING TECHNIQUE — 1 (To replace the battery pack during recording)

- 1 If the battery warning appears in the viewfinder or the LCD display while recording, stop recording by pressing the POWER switch to OFF, not the STOP button.
- 2 Replace the battery pack with a charged one.
- 3 Press the POWER switch to ON.
 - The unit will be in the Recording Standby mode.
- 4 Press the recording start/stop button to start recording.

ASSEMBLE RECORDING TECHNIQUE — 2 (To record onto a partially recorded tape)

- 1 Play back the tape to a point where you wish a new recording to start.
 - Use the SHUTTLE SEARCH button for faster location.
- 2 Press the PAUSE/STILL button at the located point.
 - The unit will enter the Still mode.
- 3 Press the REC button.
 - The unit will enter the Recording Standby mode.
- 4 Press the recording start/stop button to start recording.

Note:

Some picture distortion may occur at the transition point. This is not due to any defect of the unit.

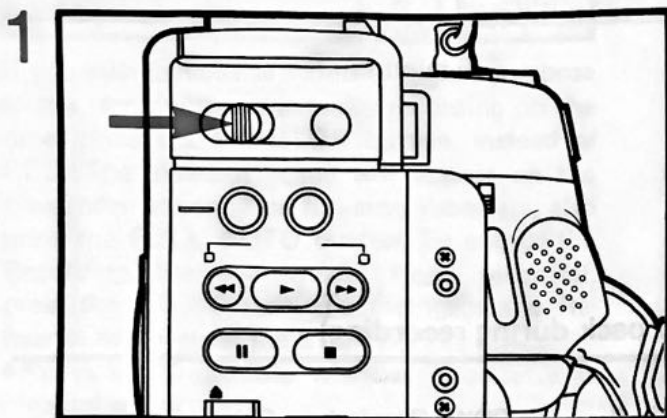
PLAYBACK

The GR-45E permits playback of recorded VHS-C video cassettes. For connections refer to pages 19 and 20.

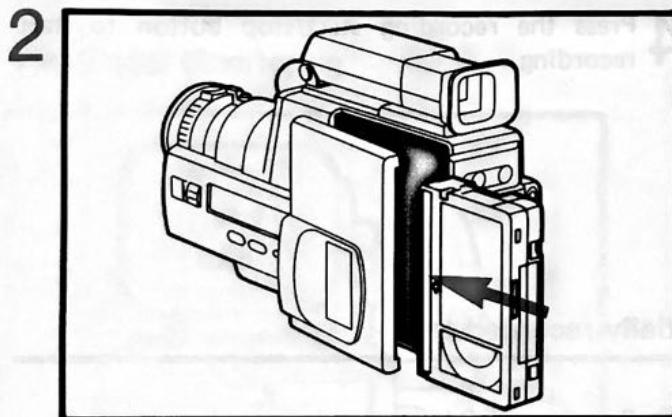
Preparation

- Set the aerial select switch of the RF-V3E RF unit to VIDEO and the TV receiver's channel selector to your video channel (specified AV channel).

Connect a power supply unit. (Battery or AC operation: see page 5.)



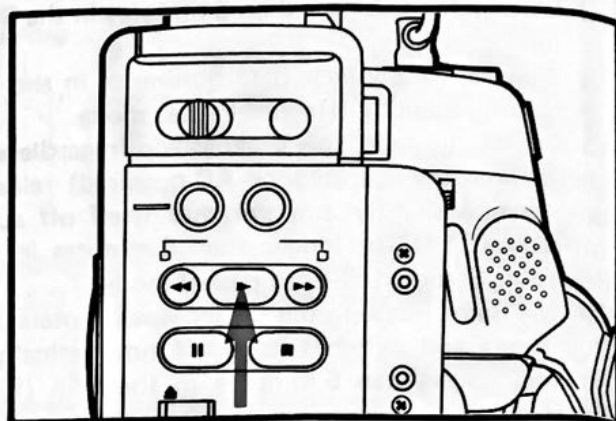
Slide the **POWER** switch to ON.



Insert a pre-recorded cassette.

First remove tape slack, then insert the cassette correctly. See page 3.

3

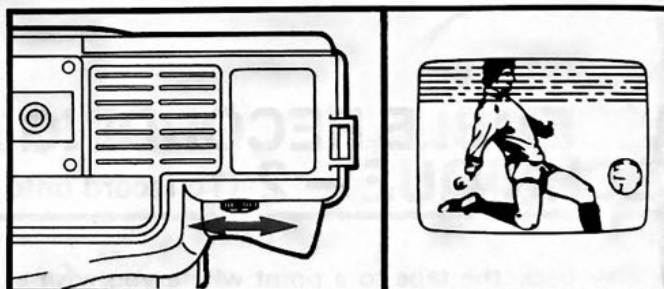


Press the **PLAY** button. Playback will start.

- The SP/LP switch may be in either position. The SP or LP mode recording is automatically detected and played back at a correct speed respectively.
- When the end of the tape is reached during playback, the Rewind mode engages automatically.

Tracking adjustment

If noise bars appear on the screen, adjust the **TRACKING** control. Turn it slowly in either direction to minimize noise bars. After playing a particular tape, return the **TRACKING** control to the center position.

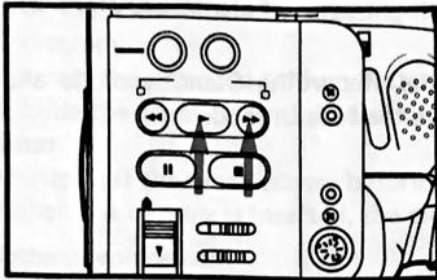


Shuttle Search

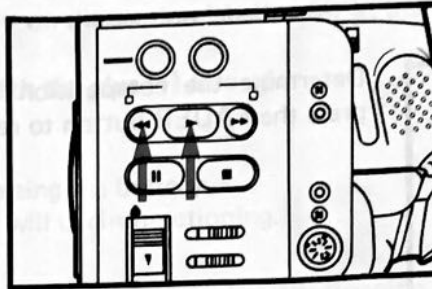
Still playback

Fast-speed playback in the forward direction

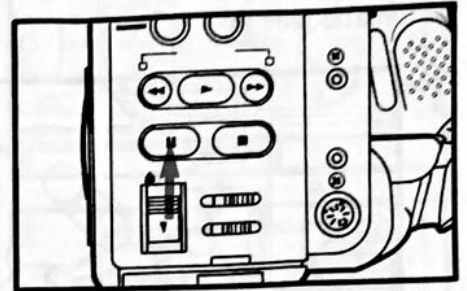
Fast-speed reverse playback



Press the FF button in the Play mode. Playback will be speeded up to 3 times normal speed in SP mode, 7 times normal speed in LP mode, as long as the button is being pressed.



Press the REW button in the play mode. The tape will be played back in the reverse direction at 3 times normal speed in SP mode, 7 times normal speed in LP mode, as long as the button is being pressed.



Press the PAUSE/STILL button during playback. The picture will stop on the screen.

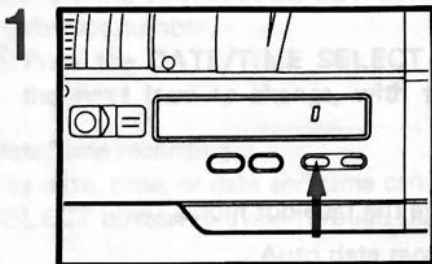
●After about 5 minutes of still playback, the unit enters the Stop mode automatically for tape protection and switches itself off.

Note:

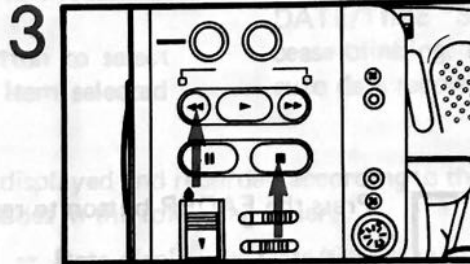
- Noise may appear on the screen during Shuttle Search and still playback. This is not due to any defect of the unit.

Counter Memory Function

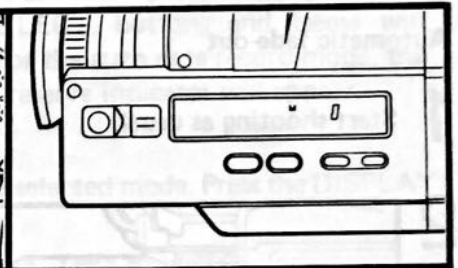
The GR-45E incorporates a counter memory mechanism which facilitates locating a specific tape segment.



Press the RESET button to reset the counter to "0".

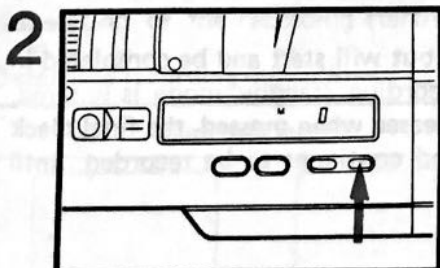


After recording or playback, press the STOP button, then the REW button. The tape will automatically stop at the counter reading of around "0".

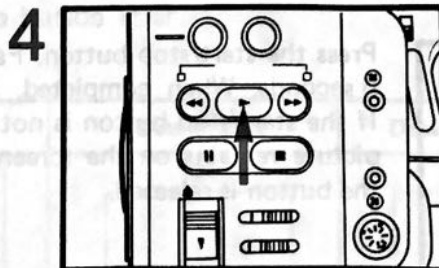


Notes:

- The counter memory function is effective in the Fast Forward mode as well.
- To cancel the memory function, press the MEMORY button.
- When the power supply unit is disconnected, all indications on the LCD display disappear and the counter memory function is cancelled.



Press the MEMORY button. The "M" mark will appear.



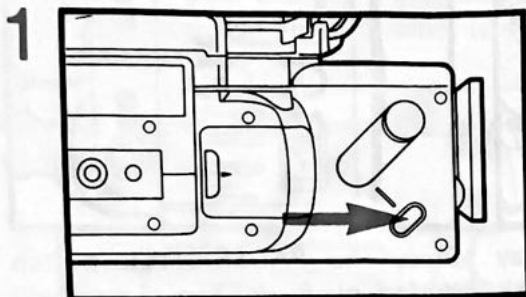
Press the PLAY button to start playback.

SPECIAL TECHNIQUES

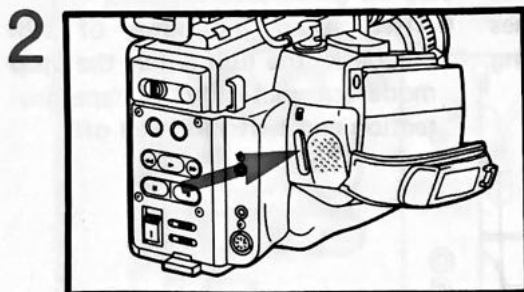
Fade-in/out

The GR-45E is equipped with an automatic fade mechanism for allowing smooth fade-in and fade-out with a black-coloured blank screen. Audio also fades in sync with video.

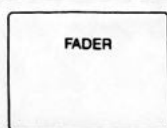
Automatic fade-in



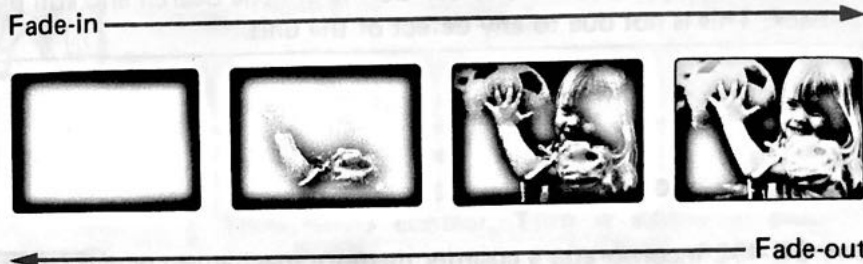
Determine the composition in the Recording Standby mode and press the FADER button to reserve the fade-in mode.



Press the start/stop button. The screen will quickly become black and recording begins. When the start/stop button is released, fade-in will start. It will be completed in 5 seconds. If the start/stop button is not released when pressed, the black picture will remain on the screen and be recorded.



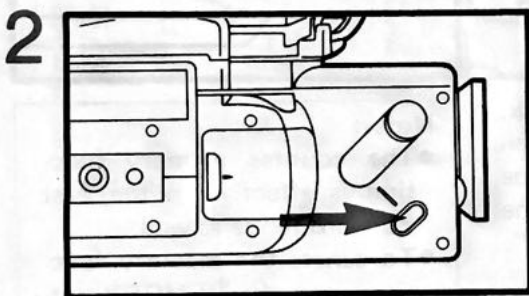
FADER is displayed in the viewfinder when fading is reserved, and continues to be displayed until fading in or out is completed.



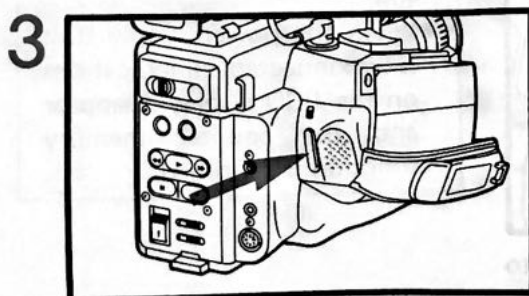
← Fade-out

Automatic fade-out

1 Start shooting as usual.



Press the FADER button to reserve the fade-out mode.



Press the start/stop button. Fade-out will start and be completed in 5 seconds. When completed, Recording standby mode is entered. If the start/stop button is not released when pressed, the final black picture remains on the screen and continues to be recorded, until the button is released.

- Warning on lithium battery**
- Dispose of used battery promptly.
 - Keep away from children.
 - Do not disassemble and do not dispose of in fire.

Recording the date/time

Battery insertion

This battery powers the date/time function.

1. Slide the cover off the **CLOCK BATTERY** compartment on the bottom of the VideoMovie by pressing lightly on the section labelled **(A)** in the diagram.
2. Insert the provided lithium battery **with the plus (+) side up**.
3. Slide the cover on until it clicks.

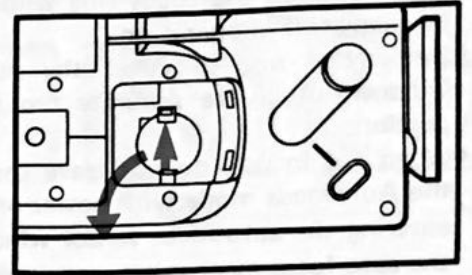
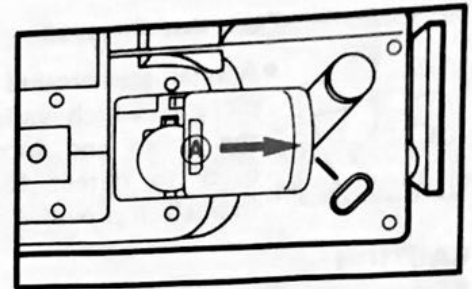
Notes:

- Switch off the unit's power before inserting the battery.
- When the battery is inserted, the clock will begin functioning.

Battery replacement

The battery lasts for about one year. When the lithium battery warning (▶ E) appears in the viewfinder, this battery needs to be replaced. Obtain a new CR 2025 lithium battery and follow the following procedure.

1. Remove the battery by pressing the knob in the direction of the arrow.
2. Insert the new CR 2025 **with the plus (+) side up**.
3. Slide the cover back until it clicks.



Note:

Switch off the unit's power before removing old battery.

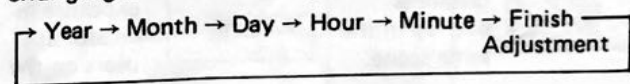
Replace battery with Matsushita type CR 2025 only. Use of another battery may present risk of fire and explosion.

Date/time setting

Before adjusting the date and time for the first time or after replacing the batteries, 1. 1.87 blinks in the viewfinder, indicating the clock needs to be set.

- ① Switch the unit's power on, 1.1.87 will blink in the viewfinder. Press **MONITOR** button to enter Rehearsal mode.
- ② Press the **DATE/TIME SELECT** button – the year blinks.
- ③ Press the **DATE/TIME SET** button to choose the correct number.
- ④ Press the **DATE/TIME SELECT** button to select the next item to change, with the item selected

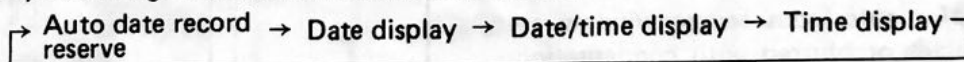
changing in the following sequence:



- ⑤ Repeat steps ② and ③ to set all items. After the minute setting has been performed, press the **DATE/TIME SELECT** button, and items will cease blinking. For the auto date record mode, the auto date record reserve indicator will appear.

Date/time recording

The date, time, or date and time can be displayed and recorded according to the selected mode. Press the **DISPLAY SELECT** button to cycle through the modes in the following order:



- When the auto-date-record function is selected, "–. –. –." appears in the viewfinder, until recording begins. As long as this function is chosen, the date will be automatically displayed and recorded for about 5 seconds following the first operation of the recording start/stop button after

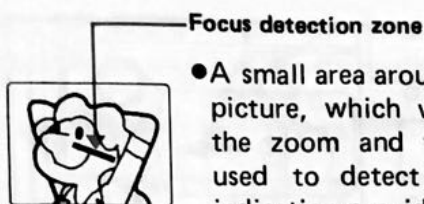
the power is turned on.

- Auto date record reserve indication will cease to be displayed if the **DATE/TIME REC ON/OFF** button is set to **OFF** unless power is provided again.

Date/time recording indications

Auto date record		Date display	Date/time display	Time display
Auto date record reserved	Auto date record executed			

Auto-focus



Focus detection zone

- A small area around the center of the picture, which varies depending on the zoom and focus conditions, is used to detect focus. (No actual indication provided on the screen.)

CAUTION

- Do not touch the focus ring while the auto-focus mechanism is in operation.
- Be careful not to cover the auto-focus sensor window, otherwise accurate focusing will not be possible.
- When not in use, do not leave the VideoMovie in the Autofocus mode with power on; otherwise light entering the auto-focus sensor window will operate the auto-focus mechanism, consuming power.

Correct focus may not be obtained in the following situations. In such cases manual focusing should be performed to obtain proper focus.

<p>Two subjects at different distances overlap in the same scene.</p>	<p>Low illumination where the under-exposure indicator appears on the Viewfinder screen.</p>
<p>Slanted lines only.</p>	<p>Minute patterns or identical patterns that are regularly repeated.</p>

Note:

- If the lens and/or auto-focus sensor window are smeared with staint or blurred with condensation, accurate focusing is not possible. Keep them clean. If they become dirty, wipe with a piece of soft cloth. When condensation occurs, dry them by wiping with a soft cloth or wait for conditions in which they become dry.

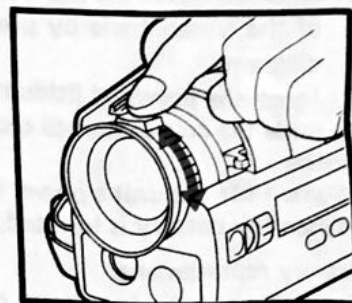
One-hour recording

- To record longer on a single cassette, use the LP (Long Play) mode.
- For LP recording, a higher-capacity battery pack may be used.
- For worry-free shooting, it is recommended that you prepare battery packs for 3 or 4 times the length of time required for the intended recording.

Manual focus

If the manual focus mode is selected, proceed as follows:

- ① Zoom in on a subject by pressing the "T" button.
- ② Focus onto it by turning the focus ring.
- ③ Determine the composition by pressing the "W" button.



Caution:

Covering the white balance sensor while manually focusing will result in poor colour reproduction.

Note:

- When you use the manual focus mode, be sure to focus the lens in the maximum telephoto position. If you focus in on a certain subject in the wide-angle position, sharply-focused images cannot be obtained when zoomed up because the depth of field is reduced at longer focal lengths.

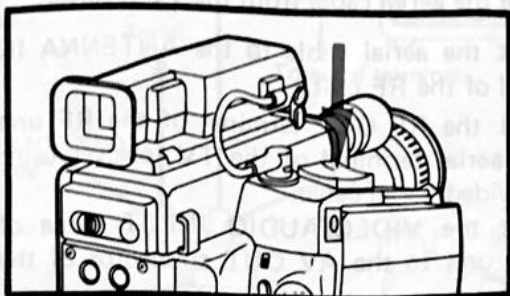
FOCUS INDICATORS

The focus indicators on the viewfinder screen function in the manual focus mode.

Condition	Indication	Corrective operation
Focus point behind the subject		Turn the focus ring clockwise until the center square lights.
Correct focus		Keep the focus ring in the same position.
Focus point in front of the subject		Turn the focus ring counterclockwise until the center square lights.
Indication not possible because of low contrast		Estimate the subject distance and set the focus ring referring to the distance scale on it.

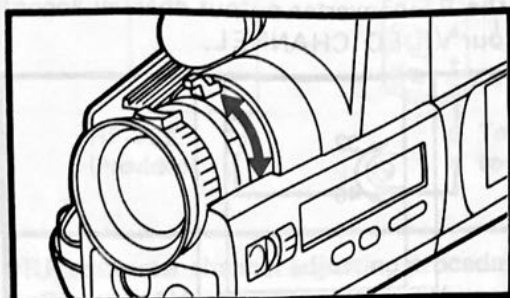
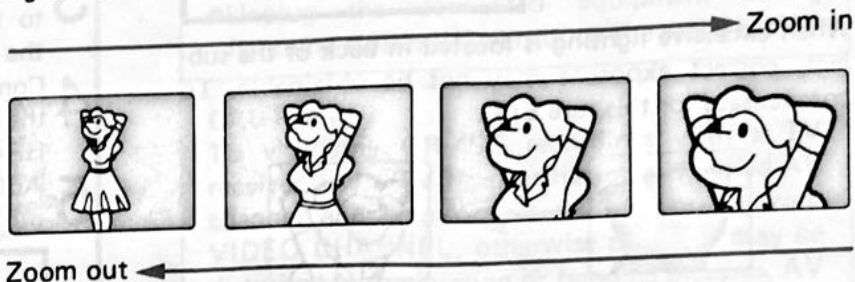
Zooming

When the focal length of the lens is varied by turning the zoom ring, the image appears to come nearer to or retreat from the viewer.



Power zooming

Press "T" for zooming in and "W" for zooming out. Two zooming speeds are available. For slow-speed zooming, press lightly. For regular-speed zooming, press firmly.

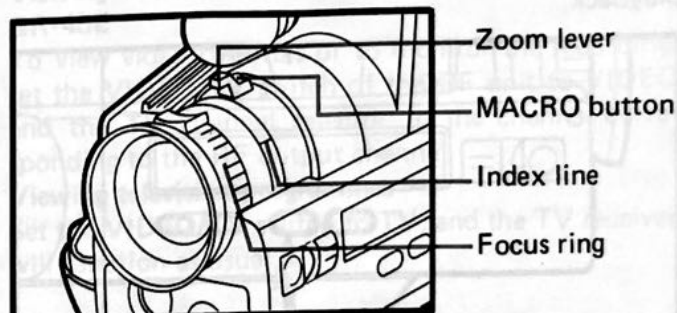


Manual zooming

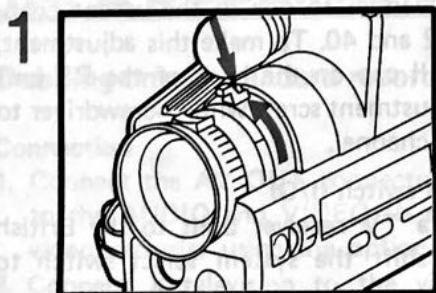
Rotate the zoom lever downwards for zooming in and upwards for zooming out.

Macro Shot

Normally, focusing is possible only for subjects that are more than 1.1 m away from the camera. By setting the lens to the Macro mode, it is possible to manually focus in on any subject located inside that limit, right up to the front of the lens. The MACRO and ZOOM ranges combined give continuous shooting ability from close-up to infinity.

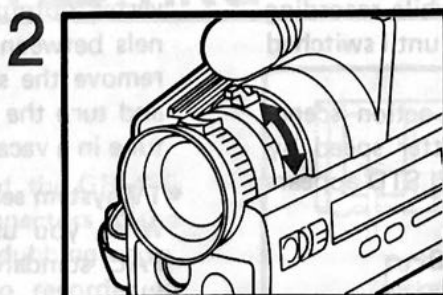


Engage MACRO



While pressing in the macro button, turn the zoom lever in the direction of the arrow until the number "9" on the zoom ring passes the index line.

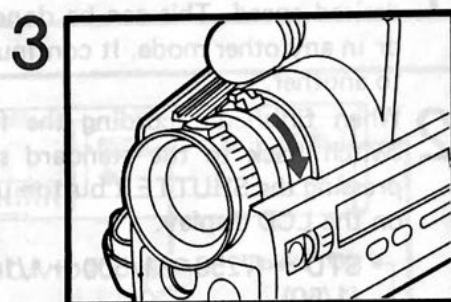
Focus



Focus by turning the zoom lever slowly.

- Use the zoom lever to focus in the MACRO range.
- Turning the Focus ring will slightly alter the angle of view of the lens.
- The zoom and auto-focus mechanisms do not function during macro shooting.

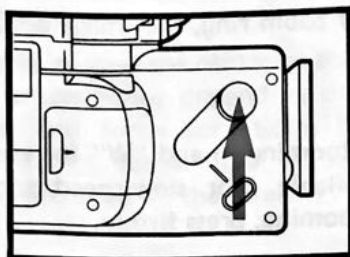
Release MACRO



To release the Macro mode, turn the zoom lever in the direction of the arrow until the number "9" passes the index line.

Backlight compensation

- Press the BLC button. While it is being pressed, the iris is 1–2 f-stops wider than that adjusted automatically.



When excessive lighting is located in back of the subject, correct exposure may not be obtainable. To compensate for this, use BLC.



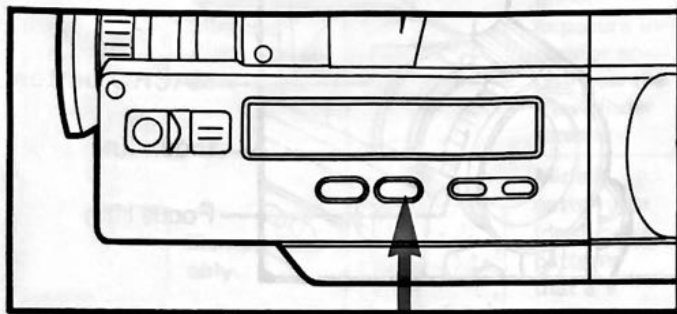
Without BLC



With BLC

High-Speed Shutter

The GR-45E is equipped with a selectable high-speed shutter that allows better recording of quick movements for sharp, clear stills or slow-motion playback.



- 1 Press the SHUTTER button to switch to a desired speed. This can be done while recording or in any other mode. It continues until switched to another.
- 2 When finished recording the fast-action scene, switch back to the standard shutter speed by pressing the SHUTTER button until STD appears on the LCD display.

→ STD → 1/250 → 1/500 → 1/1000
(1/50)

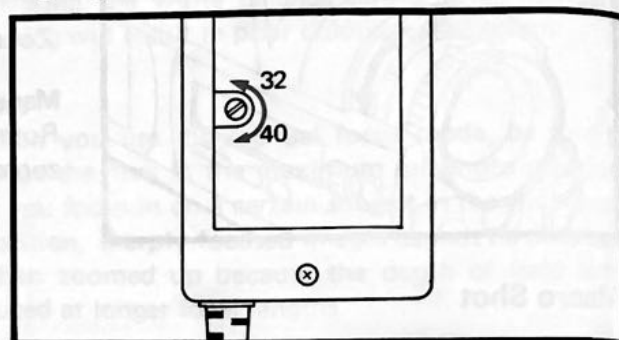
Notes:

- The High-Speed Shutter mode requires slightly more subject illumination than the Standard Shutter mode. Therefore, the low-light warning may blink in the viewfinder. If so, switch to the Standard Shutter mode.
- Picture color may be adversely affected in the high speed shutter mode when the subject is lit by alternating discharge-type light sources such as fluorescent or mercury-vapor lights.

CONNECTION TO A TELE

The GR-45E includes playback circuits and allows playback of pre-recorded cassettes simply by connecting to a television set.

- 1 Remove the aerial cable from the TV receiver.
- 2 Connect the aerial cable to the ANTENNA IN terminal of the RF unit.
- 3 Connect the RF OUT terminal of the RF unit to the aerial terminal of the TV receiver using the provided aerial cable.
- 4 Connect the VIDEO/AUDIO INPUT cable of the RF unit to the AV OUT connector of the GR-45E.
- 5 Adjust the RF converter output channel according to your VIDEO CHANNEL.

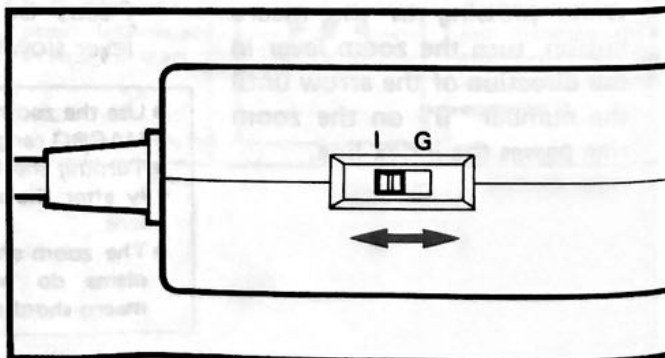


● RF converter channel adjustment screw

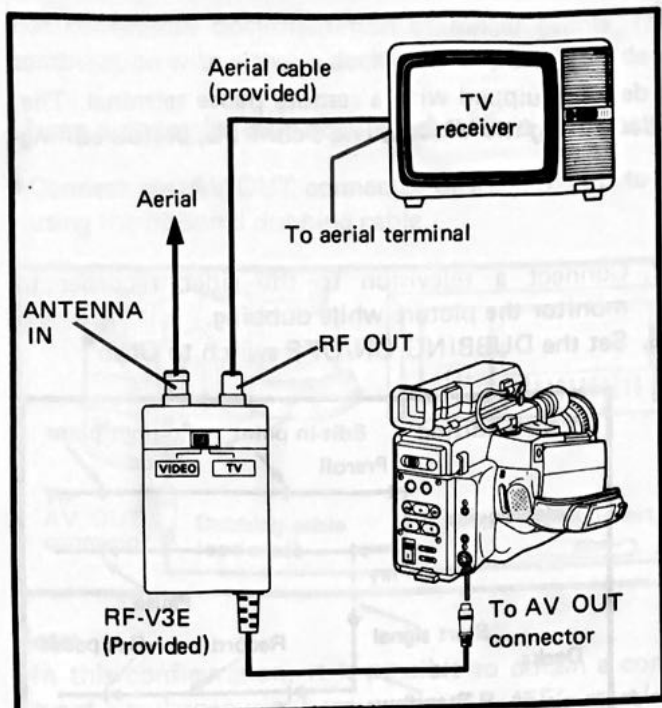
The RF unit permits playback of video and audio recordings through a TV receiver. The signals from the RF unit are viewed through a vacant channel not used for broadcasting in your area. The output frequency of the RF converter has been set to correspond to a broadcast on UHF channel 36. To view playback pictures from the GR-45E with your TV receiver, tune its specified AV channel to UHF channel 36. If channel 36 is employed for broadcasting in your area, readjust the RF converter output channel to one of the vacant channels between 32 and 40. To make this adjustment, remove the small cap on the back of the RF unit and turn the adjustment screw with a screwdriver to tune in a vacant channel.

● TV system select switch (I/G)

When you use a TV receiver built to the British PAL standard, shift the system select switch to "I".



VISION FOR PLAYBACK



●RF converter channel adjusting procedure

1. Set the AV channel of the TV receiver to one of the vacant channels.
2. Power the GR-45E.
3. Put the GR-45E in the Rehearsal mode (see page 11).
4. Set the VIDEO/TV switch of the RF unit to VIDEO.
5. While monitoring the output signal on the TV screen, turn the RF converter channel adjustment screw so that the monitored picture comes in most clearly.

- When you wish to view video cassette programmes, always select the AV channel on the TV receiver which has been tuned to the output frequency of the RF converter.

PRECAUTIONS FOR RF-V3E (Provided)

- For exclusive use with the GR-45E VideoMovie.
- Do not disassemble or remodel the RF-V3E.
- Do not expose it to strong shocks.
- Unplug the connected equipment during lightning storms. (Never touch the aerial cable.)

CAUTION:

To view the GR-45E recordings with a TV receiver, use a TV receiver having a specified AV channel and employ this AV channel as your VIDEO CHANNEL, otherwise playback may be disturbed with vibrating or bending pictures. AV channels refer to channels exclusively for video playback; because of AFC circuits applied to these channels, the playback pictures can be stabilised. Recent TV receivers have one or more AV channels.

OPERATION

Viewing video cassettes being played back with the GR-45E

To view video cassettes or to monitor the recording, set the VIDEO/TV switch of the RF unit to VIDEO and the TV channel selector to the channel corresponding to the RF output channel.

Viewing television programmes

Set the VIDEO/TV switch to TV, and the TV receiver will function as usual.

TAPE DUBBING OR EDITING

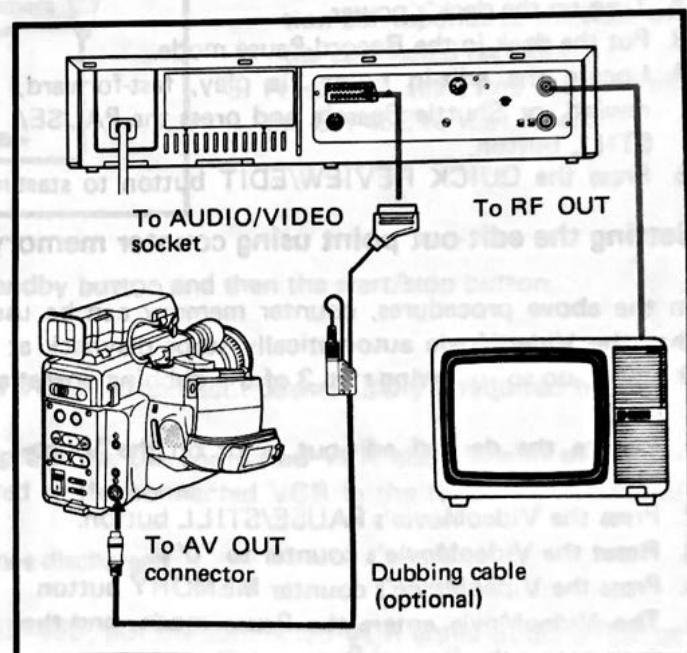
Dubbing onto a standard recorder

Connection

1. Connect the AV OUT connector of the GR-45E to the AUDIO and VIDEO IN connectors of the video recorder using the optional dubbing cable.
2. Connect a television to the video recorder to monitor the picture while dubbing.
3. Set the DUBBING ON/OFF switch to ON.

Operation

- Put the GR-45E in the Play mode and the connected recorder in the Record mode to copy the recording. To edit out unwanted material, press the recorder's PAUSE button.

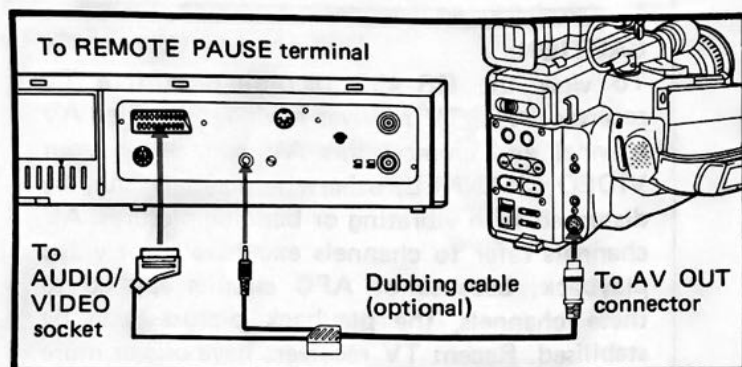


Using the Master Edit Control System

This function is available when using designated JVC video decks equipped with a remote pause terminal. The Master Edit Control system allows control of the connected deck using the VideoMovie's controls, preroll editing for edits free of transition-point gaps and distortion.

Connection

1. Connect the AV OUT connector of the GR-45E to the AUDIO and VIDEO IN connectors and remote pause terminal of the video recorder.
2. Connect a television to the video recorder to monitor the picture while dubbing.
3. Set the DUBBING ON/OFF switch to ON.



Operation

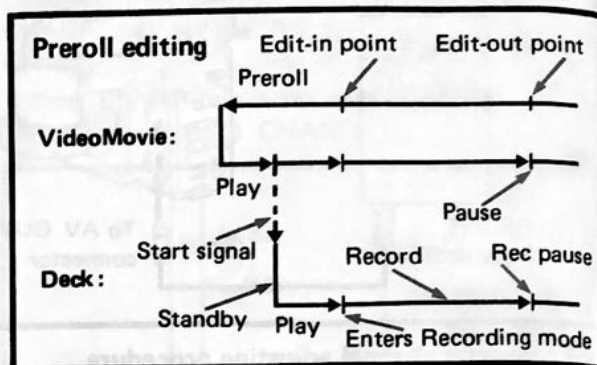
Dubbing can be initiated from Stop mode or Still mode.

●For dubbing a tape

1. Switch on the VideoMovie's power.
2. Switch on the deck's power.
3. Put the deck in the Record-Pause mode.
4. Press the QUICK REVIEW/EDIT button to start editing. The tape is loaded, then dubbing starts.
5. Tape stop when the PAUSE/STILL or STOP button of the GR-45E is pressed or counter reaches "0M".
6. Deck stops recording and enters the Record-Pause mode

●For editing

1. Switch on the VideoMovie's power.
2. Turn on the deck's power.
3. Put the deck in the Record-Pause mode.
4. Locate the edit-in point via play, fast-forward, rewind, or Shuttle Search, and press the PAUSE/STILL button.
5. Press the QUICK REVIEW/EDIT button to start



editing.

6. Tape stops when the PAUSE/STILL or STOP button of the GR-45E is pressed or counter reaches "0M".
7. Deck stops recording and enters the Record-Pause mode.

Note:

When the EDIT button is pressed from the Still mode, the tape is rewound for 5 seconds of program time. The Play indicator appears on the LCD display to indicate rewinding is taking place. After prerolling, first the prerolled section is played back for stabilizing tape run. During playback of the GR-45E, it gives a start signal to the deck standing by in the Record-Pause mode to start playback and then to enter the Recording mode at edit-in point, while the GR-45E continues playback. The Master Edit Control indicator appears on the LCD display during dubbing.

Setting the edit-out point using counter memory

In the above procedures, counter memory can be used to set the edit-out point before editing takes place, so that the VideoMovie automatically stops playback at the designated point. If the edit-out point is to be set in this way, do so following step 3 of the dubbing operation.

1. Locate the desired edit-out point on the VideoMovie's tape.
2. Press the VideoMovie's PAUSE/STILL button.
3. Reset the VideoMovie's counter to "0".
4. Press the VideoMovie's counter MEMORY button.
5. The VideoMovie enters the Pause mode, and the deck enters the Record-Pause mode.

Note:

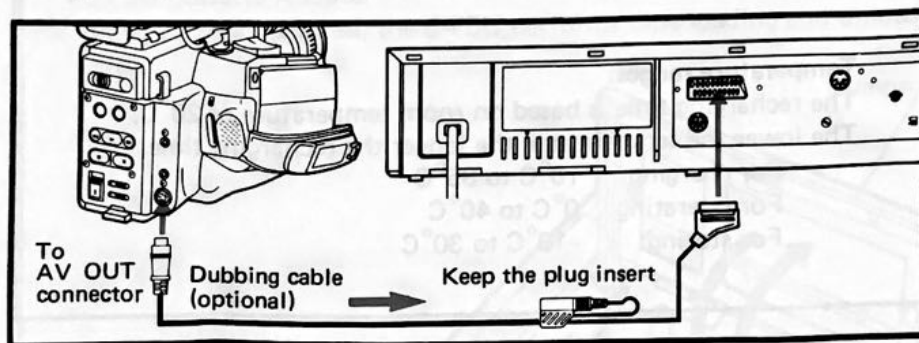
When the tape reaches the preset edit-out point during the dubbing operation, it may stop slightly before or after the designated point on the tape.

USING THE GR-45E AS A VIDEO CAMERA

For continuous documentation of longer events, the GR-45E can be used as an independent video camera in combination with either a deck-type or portable video recorder.

Using a recorder not equipped with a remote pause terminal

- Connect the AV OUT connector of the GR-45E to the AUDIO and VIDEO IN connectors of the video recorder using the optional dubbing cable.



Operation

1. Press the MONITOR button. The camera output signal is now available via the dubbing cable.
2. Put the connected recorder in the Record mode. Recording will start. Tape start/stop should be controlled with the recorder's buttons.

Note:

- In this configuration, it is possible to obtain a continuous recording and an edited-out recording of the same event simultaneously, because the GR-45E's start/stop button only controls the tape inside itself while another tape loaded in the connected recorder continues running. To record on the GR-45E's tape, follow the same recording procedure as mentioned before: press REC standby and then the start/stop button.

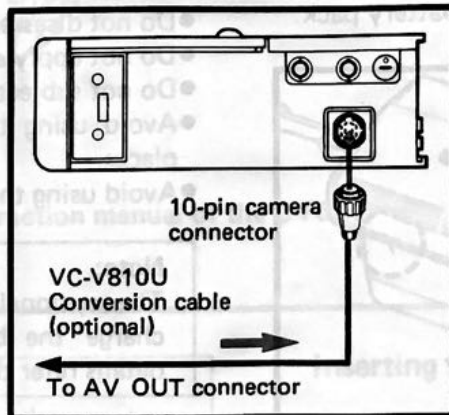
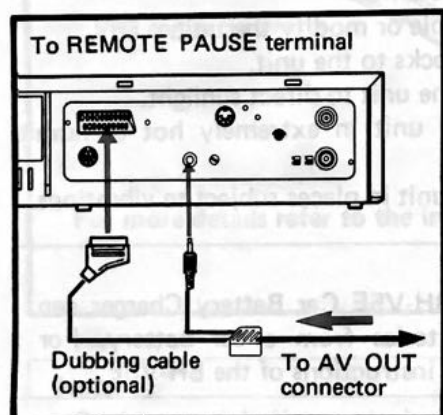
Using a recorder equipped with a remote pause terminal or with a 10-pin camera connector

For a recorder with a remote pause terminal

- Connect the AV OUT connector of the GR-45E to the AUDIO and VIDEO IN connectors and remote pause terminal of the video recorder using the optional dubbing cable.

For a recorder with a 10-pin camera connector

- Connect the AV OUT connector of the GR-45E to the 10-pin camera connector of the second recorder using the optional VC-V810U conversion cable.



Operation

1. Press the MONITOR button.
2. Press the connected recorder in the Recording Standby (Record-Pause) mode.
 - The viewfinder's mode indication corresponds to the state of the connected recorder.
3. Press the start/stop button of the GR-45E to start recording.

Note:

- To record on the GR-45E's tape as well, press the REC standby button and then the start/stop button.

Precautions

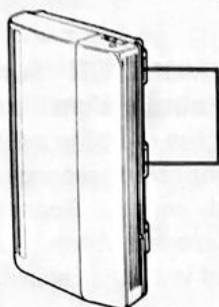
- Power is not supplied to the GR-45E from the connected VCR. Independent power supply is required for both the GR-45E and the VCR.
- If you stop recording by pressing the GR-45E's start/stop button, the connected VCR also stops in the Pause mode. However, the pause command signal is not delivered to the connected VCR in the following cases and, therefore, the VCR will start automatically:
 - (1) when the GR-45E is switched off or its battery becomes discharged.
 - (2) when the VC-V810U cable is disconnected.Therefore, before replacing the battery or tape for the GR-45E, put the connected VCR either in the STOP or REC LOCK mode.

CHARGING THE BATTERY PACK

To charge the battery pack, use the exclusive AC power adapter/battery charger AA-V5EG (provided/optional) or car battery charger BH-V5E (optional).

A WORD ON THE EXCLUSIVE BN-V5GU/V6GU/V7GU BATTERY PACKS

The BN-V5GU/V6GU/V7GU are nickel-cadmium batteries. Give attention to the following to make the most of their characteristics.



Terminals
Do not
short-circuit

Temperature ranges:

The recharging time is based on room temperature of 20°C.
The lower the temperature, the longer the recharging time.

For charging: 10°C to 35°C
For operating: 0°C to 40°C
For storing: -10°C to 30°C

The battery pack has been kept in the uncharged state for shipment. Therefore, before use, charge it.

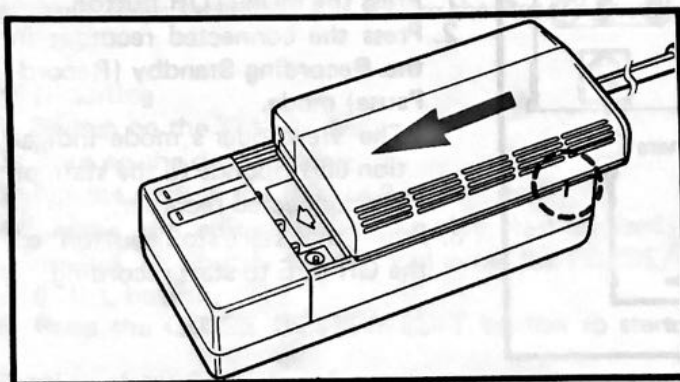
BE SURE TO CAREFULLY READ THE CAUTION ATTACHED TO THE BATTERY PACK.

Charging procedure

Charging time

BN-V5GU 50 min.	BN-V6GU 70 min.
BN-V7GU 80 min.	

- The charging time differs depending on the ambient temperature and the condition of the battery pack.



- 1 Connect the AC power cord to a wall outlet.
(The POWER indicator will light.)
- 2 Align the marks on the battery pack and adapter.
- 3 Slide the battery pack in the direction of the arrow until it locks in place.
- 4 When charging is completed, the CHARGE indicator goes out.

PRECAUTIONS

- If used near a radio, the provided AA-V5EG AC power adapter/battery charger may interfere with reception.
- Prevent inflammables, water and metallic objects from entering the unit.
- Do not disassemble or modify the unit.
- Do not apply shocks to the unit.
- Do not subject the unit to direct sunlight.
- Avoid using the unit in extremely hot or humid places.
- Avoid using the unit in places subject to vibrations.

Note:

The optional BH-V5E Car Battery Charger can charge the batteries from a car battery. For details refer the instructions of the BH-V5E.

Recording time for the GR-45E

BN-V5GU 25 min.	BN-V6GU 60 min.
BN-V7GU 80 min.	

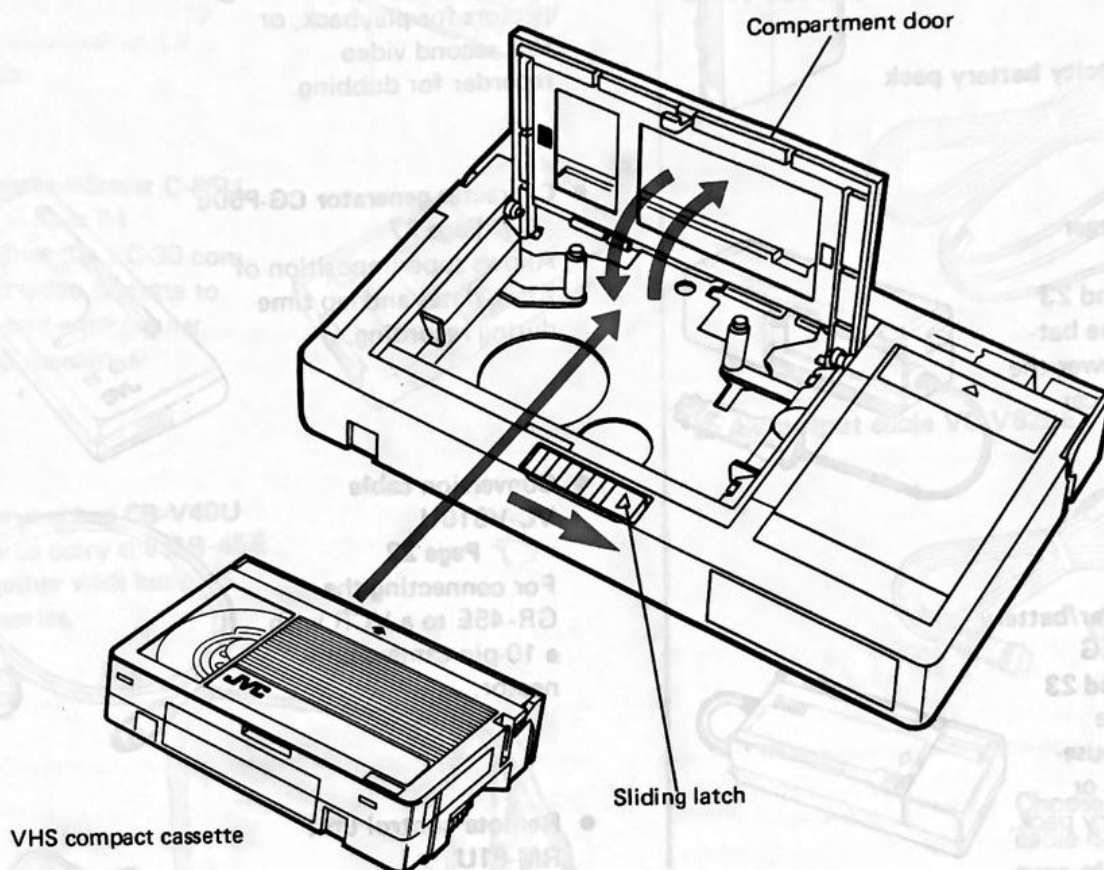
- The recording time per charge is influenced by the duration of recording standby, frequency of zooming, etc. It is safer to have spare battery packs.

USING THE CASSETTE ADAPTER (provided)

The VHS compact video cassettes recorded with the GR-45E can be played back with a standard VHS machine by using the provided C-P5U Cassette Adapter.
(A compact video cassette installed in the cassette adapter is fully compatible with a standard VHS machine for both recording and playback.)

●C-P5U Cassette Adapter

Being battery-operated, the C-P5U performs tape loading and unloading automatically.



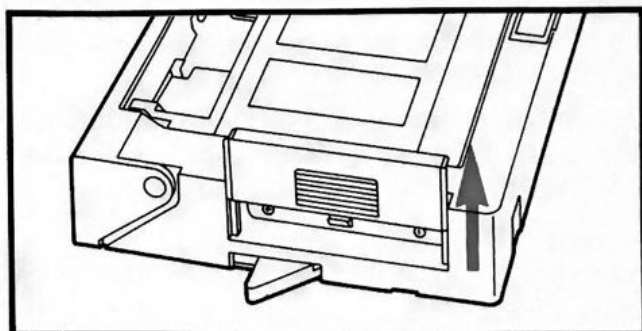
For more details refer to the instruction manual of the C-P5U.

Note:

- During special-effects playback (slow motion, still frame, etc.) the picture may vibrate or noise bars may appear on the screen.


Inserting the battery into the cassette adapter


Remove the battery cover by sliding it up.
Install one "R6" battery and reattach the cover.




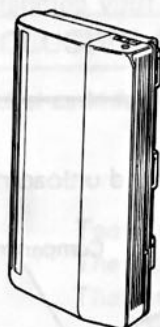
SYSTEMS FLEXIBILITY


For maximum enjoyment, make the most of the provided or optional accessories depending on the situation.

- **Regular battery pack BN-V5GU**
 **Page 23**

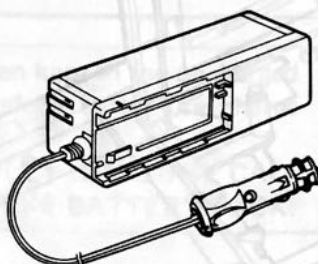
- **High-capacity battery pack BN-V6GU**
 **Page 23**


- **Super high-capacity battery pack BN-V7GU**
 **Page 23**



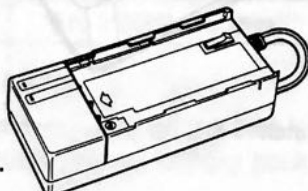
- **Car battery charger BH-V5E**
 **Pages 5 and 23**


Use to charge the battery pack, or power the GR-45E using a car battery.

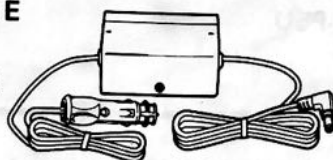



- **AC power adapter/battery charger AA-V5EG**
 **Pages 5 and 23**

Use to power the GR-45E with household AC current or charge the battery pack.




- **Car battery cord AP-P1E**
 **Page 5**
 For power supply from a car battery.



- **AV dubbing cable VC-V896E**
 **Pages 20, 21 and 22**

Use to connect the GR-45E to a television set equipped with audio/video input connectors for playback, or to a second video recorder for dubbing.



- **Character generator CG-P50E**
 **Page 27**


Allows superimposition of titles, dates and lap time during recording.



- **Conversion cable VC-V810U**
 **Page 22**

For connecting the GR-45E to a VCR with a 10-pin camera connector.



- **Remote control unit RM-P1U**
 **Page 27**

Controls recording start/stop from a distance.



- **Compact video cassette EC-30**

☞ **Page 3**

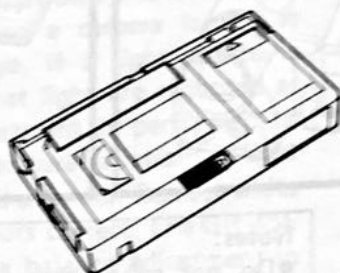
Allows 30 minutes of recording and playback in SP mode, and 60 minutes of recording and playback in LP mode.



- **Cassette adapter C-P5U**

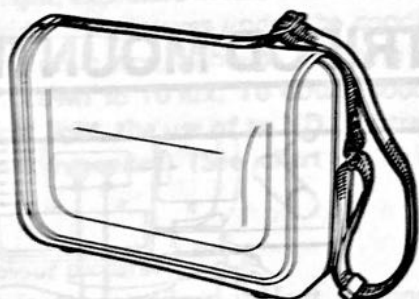
☞ **Page 24**

Enables the EC-30 compact video cassette to be used with regular VHS machines.



- **Carrying bag CB-V40U**

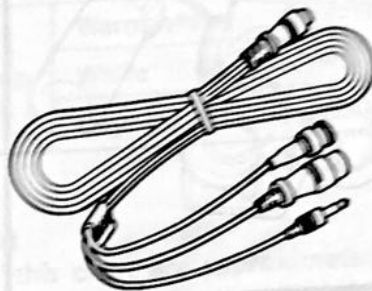
Use to carry the GR-45E together with basic accessories.



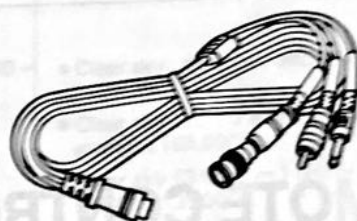
AV dubbing cables

For connecting VCRs which do not accept the VC-V896E, these cables are also available optionally.

- **AV dubbing cable VC-V856E**



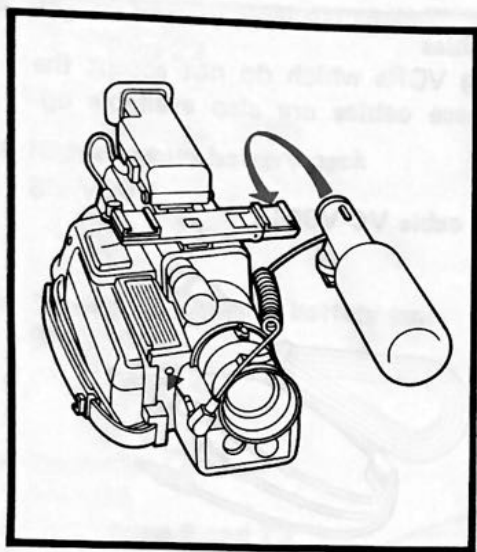
- **AV output cable VC-V826E**



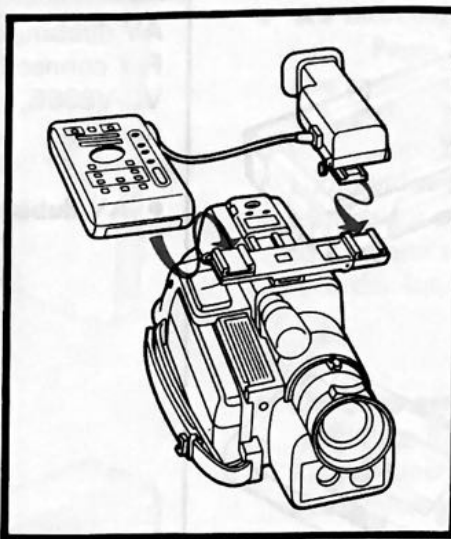
Choose the appropriate cable depending on the type of VCR you have.

SHOE ADAPTER (provided)/ CARRYING HANDLE (provided)

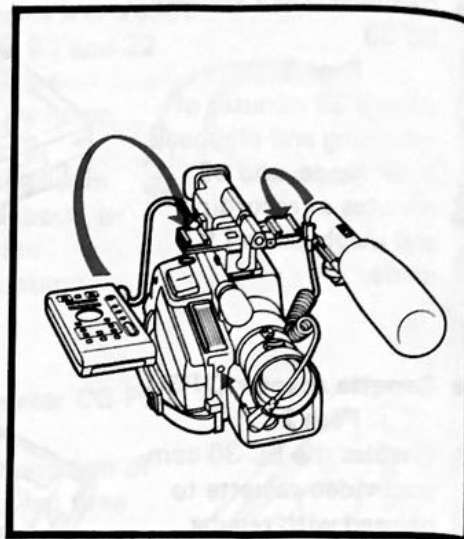
Attaching external microphone using shoe adapter.



Attaching character generator using shoe adapter.



Attaching character generator and external microphone using shoe adapter and carrying handle.



CAUTION

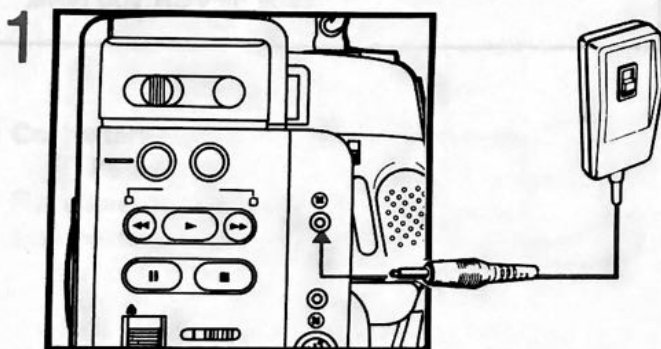
- Do not attach a video light, its heat could cause malfunctioning of the GR-45E.

Notes:

- Do not adjust the viewfinder angle while using shoe adapter.
- Keep carrying handle in up position while attaching accessories.
- Run the microphone cord behind the shoe adapter.

REMOTE CONTROL UNIT (optional)

The remote control unit RM-P1U (optional) permits recording start/stop to be controlled from a distance.



Plug the remote control cable into the REMOTE connector.

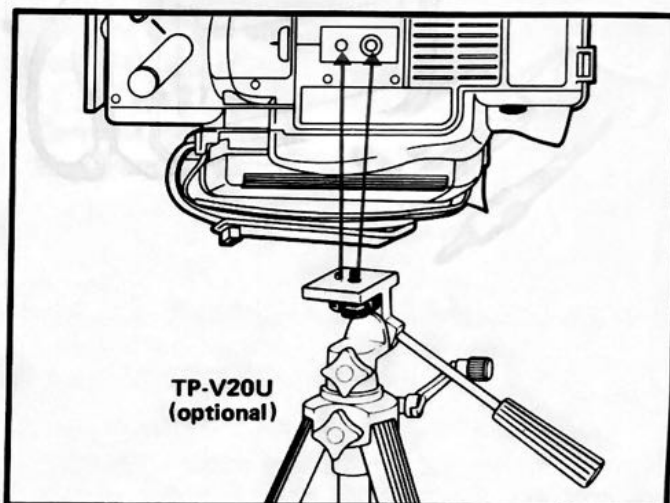
2 Press the standby button to engage the Recording Standby mode.

3 To start recording, set the remote control's switch to REC; to stop temporarily, set it to PAUSE.

Note:

Fader will not function when remote control unit is connected.

TRIPOD MOUNTING



Align the screw and camera direction stud of the tripod with the camera's tripod mounting socket and stud hole, and firmly tighten the screw.

SUPPLEMENTAL INFORMATION

What is "colour temperature"?

Light is composed of various colour components in different proportions. A relationship exists between the temperature of a light source and the colour components of the emitted light; as the temperature rises, the colour of the light varies from red, orange, yellow, white to blue in that order. "Colour temperature" is a value that expresses differences in colour among light sources, measured in Kelvin degrees. Bluish light has a higher colour temperature than reddish light.

What is "white balance"?

Making the colours look natural on TV is what white balance is all about. Because a camera is not as adaptable as the human eye, if a light source is reddish, white subjects in that light are recorded as reddish. White balance adjustment is performed to compensate for colour temperature variations of light so that whites are reproduced as white. Correct white balance makes all other colours correct. The GR-45E can perform automatic white balance adjustment in the full-auto mode. However, if illumination is insufficient, white balance adjustment cannot be performed. To obtain correct colours, therefore, sufficient illumination is essential.

What is "illuminance"?

"Illuminance" (also called 'luminance') is the intensity or brightness of light, expressed in lux. The GR-45E is designed to provide best pictures under the conditions of a 700-lux illuminance, although shooting is possible all the way down to 10 lux. To obtain good pictures in very bright light, the use of an ND (neutral density) filter is recommended. (See chart on this page.)

How to get good colour pictures

The simplest way is to provide sufficient lighting (close to the camera's reference illuminance) and accurately adjust the camera to the colour temperature of that lighting. If light sources of different colour temperatures are used together, accurate white balance adjustment is very difficult. For example, if natural light is mixed with artificial light, which is likely to occur next to windows, correct colours of the subject are difficult to obtain. It is recommended in such cases that curtains in the room be closed to shut out light from outside. Also, when artificial lighting devices are used, they should all have the same colour temperature. For example, it is recommended that incandescent or halogen lamps not be used together with fluorescent lighting.

Colour temperatures of various artificial lighting

Type of illumination		Colour temperature
Tungsten lamp for home use		2800 K
Tungsten lamp for photographic use		3200 K
Quartz-halogen lamp		
Blue lamp for photographic use		5000 K
Fluorescent lamp	Warm white	3500 K
	White	4500 K
	Daylight type	6500 K


Illuminance chart

• The values on this chart are approximated to give you a rough reference.

ND filter desired	Unit: Lux	
	Range for practical use	
Lighting desired	100,000	<ul style="list-style-type: none"> • Clear sky, mid-day, under sunlight (100,000) • Clear sky (10:00 a.m.) under sunlight (65,000) • Clear sky (3:00 p.m.) under sunlight (35,000) • Cloudy sky (mid-day) under sunlight (32,000) • Cloudy sky (10:00 a.m.) under sunlight (25,000)
	10,000	<ul style="list-style-type: none"> • By the window during the afternoon (3,500)
	2,000	<ul style="list-style-type: none"> • Cloudy sky (one hour after sunrise) (2,000)
	1,000	<ul style="list-style-type: none"> • Clear sky (one hour before sunset) (1,000)
	600	<ul style="list-style-type: none"> • Counters at department stores (500 - 700)
Lighting desired	500	<ul style="list-style-type: none"> • Bowling center (500) • Office under fluorescent light (400 - 500) • Library (400 - 500) • Direct light of a flashlight at 1 m distance (250) • Streetlight at night (150 - 200)
	100	
	80	
	Minimum lighting for an object	
	15	<ul style="list-style-type: none"> • Cigarette lighter (at a distance of 30 cm) (15)
	10	<ul style="list-style-type: none"> • Candlelight (at a distance of 20 cm) (10 - 15)

IN CASE OF DIFFICULTY

What may initially appear to be trouble is not always a real problem. Make sure first . . .

Symptoms	Check points
Power	
No power is supplied.	<ul style="list-style-type: none"> ● Is the battery pack correctly installed? ● Is the battery pack charged? ● Is the power supply unit correctly connected? ● Is the POWER switch of the connected AC adapter set to ON?
Recording	
Recording is impossible.	● Check to see if the cassette safety tab is in place. See page 3.
Picture colours greatly differ from actual subject colours	● If in the manual white balance mode, check the setting of the  button.
No sound is recorded with an external microphone.	● Is the microphone's switch set to ON?
Recording does not start.	● Have you pressed the REC standby button first?
Playback	
Tape is running, but no playback picture appears.	<ul style="list-style-type: none"> ● Is the VIDEO/TV switch of the RF unit set to VIDEO? ● Is the TV receiver set to your video channel?
Noise bars appear in the playback picture.	● Use the TRACKING control to reduce noise bars.
Playback picture is blurred or interrupted while TV programmes received are clear.	● Video heads may be dirty or worn out. For head cleaning or replacement, consult the nearest JVC dealer.
Tape transport	
Tape stops during fast forward or rewind.	<ul style="list-style-type: none"> ● Is the "M" indication visible in the tape counter? If so, press the MEMORY button to cancel the memory function.
Rewinding or fast forwarding is impossible.	● Check to see if the tape has already been fully wound on one reel or the other.
Other	
No function is available with more than two mode indicators lit.	<ul style="list-style-type: none"> ● If this should happen when using power supply units other than the battery pack, turn their POWER switch on and off. With a battery pack, replace it with another charged one.
Vertical white lines appear when shooting a very bright object.	● This may occur when the background contrasts very much with the object. This is normal.

The GR-45E is a microcomputer-controlled device. External noise and interference might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC power adapter, etc.); and then reconnect it and proceed as usual from the beginning.

安全至上 專意專心

mm
(incl. viewfinder)

Weight : Approx. 160 g

For optional accessories, refer to pages 25 and 26.

Design and specifications subject to change without notice.

CB-V55U

SYSTEM CARRYING CASE

COFFRET DE TRANSPORT/
SYSTEM-TRAGEKOFFER

This carrying case accommodates a JVC VideoMovie and its accessories. It has been designed for rugged, convenient transportation.

Ce coffret de transport contient un VideoMovie JVC et ses accessoires. Il a été conçu pour un transport sûr et pratique.

Dieser stabile Tragekoffer nimmt eine JVC VideoMovie und Zubehör gut geschützt auf und bietet bequemen Transport.

How to attach/detach the shoulder strap (provided) /

Fixation et retrait de la courroie d'épaule (fournie) /

Anbringung/Abnehmen des mitgelieferten Schultergurts

• To attach:

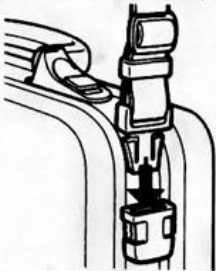
Insert the plastic fastener attached to the end of the shoulder strap, with the side labeled FRONT facing away from the case, into the clasp attached to the side of the case, until it clicks.

• Pour fixer:

Introduire l'agrafe en plastique fixée à l'extrémité de la courroie d'épaule, avec le côté marqué FRONT placé vers l'extérieur du coffret, dans la fermeture fixée sur le côté du coffret jusqu'au verrouillage.

• Anbringung:

Den Kunststoffriegel am Gurtende mit nach außen weisender FRONT-Markierung in die seitlich am Koffer angebrachte Halterung einsetzen, bis er einrastet.



• To detach:

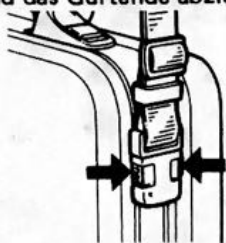
To detach, depress the two buttons on the sides of the clasp simultaneously and pull on the shoulder strap.

• Pour retirer:

Pour retirer, appuyer sur les deux boutons de chaque côté de la fermeture en tirant simultanément sur la courroie d'épaule.

• Abnehmen:

Zum Abnehmen die beiden Drucktasten der Halterung gleichzeitig drücken und das Gurtende abziehen.



How to open/close the case / Ouverture/fermeture du coffret / Öffnen und Schließen des Koffers

• To open:

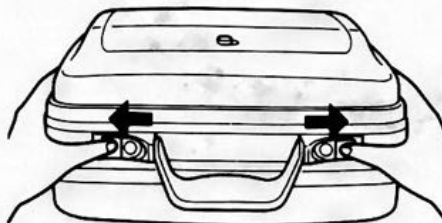
Slide the latch on either side of the handle in the direction of the arrow, as shown.

• Pour ouvrir:

Glisser la fermeture de chaque côté de la poignée dans la direction de la flèche comme montré.

• Öffnen

Die Schließen an beiden Seiten des Griffs wie gezeigt in Pfeilrichtung schieben.



• To keep the case open

The case lid can be locked open in two different positions by adjusting the hinge appropriately.

• Pour maintenir le coffret ouvert

Le coffret peut être maintenu ouvert dans deux positions différentes en réglant la charnière correctement.

• Öffnen und Einrasten des Kofferdeckels

Der Kofferdeckel kann in zwei Öffnungspositionen arretiert werden. Hierzu das Scharnier entsprechend einstellen.



• To close:

Support the lid with one hand and release the hinge by pulling it towards you at the joint with your other hand. Be careful of your fingers at all times. Push the lid downwards until it clicks.

• Pour fermer:

Maintenir l'abattant avec une main et relâcher la charnière en la tirant vers vous avec l'autre main. Faire attention aux doigts à tout moment. Appuyer sur l'abattant jusqu'à son verrouillage.

• Schließen

Den Kofferdeckel mit einer Hand abstützen und mit der anderen Hand das Scharnier am Gelenk nach vorne ziehen. Vorsichtig vorgehen. Den Kofferdeckel andrücken, bis das Schloß einrastet.



How to lock the case / Fermeture à clé du coffret / Abschließen des Koffers

• Outer locks:

Insert key in the lock and turn in the direction of the arrow.

• Fermetures externes

Introduire la clé dans la serrure et tourner dans la direction de la flèche.

• Kofferdeckelschlösser

Den Schlüssel in Pfeilrichtung drehen.

* Lock both inner and outer locks as an extra safety precaution when traveling.

* Fermer les fermetures interne et externes comme précaution de sécurité en voyage.

* Aus Sicherheitsgründen sollten bei Reisen sowohl das innere Schloß als auch die beiden äußeren Schlösser abgeschlossen werden.

• Inner lock

Insert key in the lock inside the upper lid and turn clockwise to lock.

• Fermeture interne

Introduire la clé dans la serrure de l'abattant supérieur et tourner dans le sens des aiguilles d'une montre pour fermer.

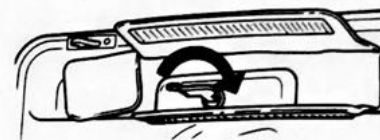
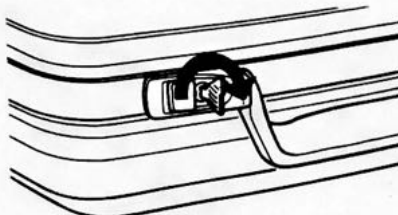
• Inneres Schloß

Das Schloß befindet sich innerhalb im Kofferdeckel. Zum Abschließen ebenfalls im Uhrzeigersinn drehen.

Right / Droite / Rechts



Left / Gauche / Links



Kongaroo pocket / Poche kangourou / Seitentasche

• To open:

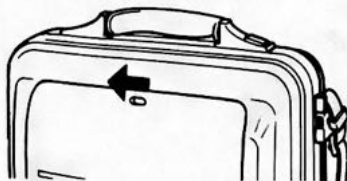
Slide latch in the direction of the arrow, as shown.

• Pour ouvrir:

Glisser la fermeture dans la direction de la flèche, comme montré

• Öffnen:

Den Riegel wie gezeigt in Pfeilrichtung schieben.



■ Dimensions: 363(W) x 315(H) x 174(D) mm

■ Weight: 1.5 kg

■ Dimensions: 363(L) x 315(H) x 174(P) mm

■ Poids: 1,5 kg

■ Abmessungen: 363(B) x 315(H) x 174(T) mm

■ Gewicht: 1,5 kg

Caution: To clean the outside of the case, wipe it with a cloth moistened with diluted furniture cleaner, then wipe dry with a dry cloth. Do not use paint thinner or cleaning agents containing benzene.

Attention: Pour nettoyer l'extérieur du coffret, l'essuyer avec un tissu mouillé avec un nettoyant dilué pour les meubles, puis l'essuyer avec un tissu sec. Ne pas utiliser de diluant à peinture ou des agents nettoyants contenant du benzène.

Vorsicht: Zur Reinigung der Kofferaußenseite ein mit verdünntem Möbelpflegemittel angefeuchtetes Tuch verwenden und dann trockenreiben. In keinem Fall Farbverdünner oder Benzol enthaltende Reiniger verwenden.

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